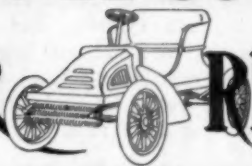


The Automobile and Weekly MOTOR REVIEW 10 Cents



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CHICAGO

THAT the construction of an automobile cannot be determined by its general appearance any more than can the character of a man be determined by the clothes he wears, is well shown by the Friedman road wagon. This little Chicago machine does not differ greatly in appearance from the ordinary vehicles of its class; it is perhaps dis-

The Friedman Road Wagon

commercial representative. There is no evidence in the machine of having been influenced by the methods commonly pursued by others.

The most noticeable point in which the Friedman differs from other vehicles is that of transmission, friction drive being

be replaced with some common form of gear transmission, and the Friedman would still

be materially different from other automobiles of its class.

The wagon is of the runabout pattern, but is mounted upon 30-in., artillery-pattern wood wheels, with 3-in. tires. Its running gear is without reaches, the body being mounted upon platform



tinctive in appearance, but not peculiar. Yet its construction throughout embodies departures from popular practice. Its makers have not resorted to radical or freakish methods, but have, more or less, followed individual lines of experiment in reaching the system of automobile structure, of which the Friedman wagon is the

employed; thus making the machine one of the only two in the American market which have this feature. Important as this element of construction is in characterizing the vehicle, however, it could

spring front and rear while the motive power plant is entirely contained within the body. In reality, the construction is that of an European style frame, mounted upon the springs with both the motor and its accessories, and the body attached to this frame; because the body is built upon a strong, rigid rectangular wooden

frame, which directly bears the weight of the motor, etc. Its chassis and body thus form an integral structure, made possible by the disposition of the power plant elements, and which, broadly speaking, may be correctly designated as the body.

Details of the Motor

Steel cross bars within the rear end of the body support the motor, which is of the horizontal, double cylinder pattern, with its shaft lying lengthwise of the machine. It is not large, the cylinders being $3\frac{3}{4} \times 4$ ins., but an actual 7-b. h. p., at 1,000 revolutions, is claimed for it. The compression is about 60 lbs. The cylinders align with each other, the piston connecting rods being offset, and each cylinder is cast in one piece, with its head and valve chambers integral with it. The water-jacketing is extensive, including the valve stems and encompassing the full length of the cylinders.

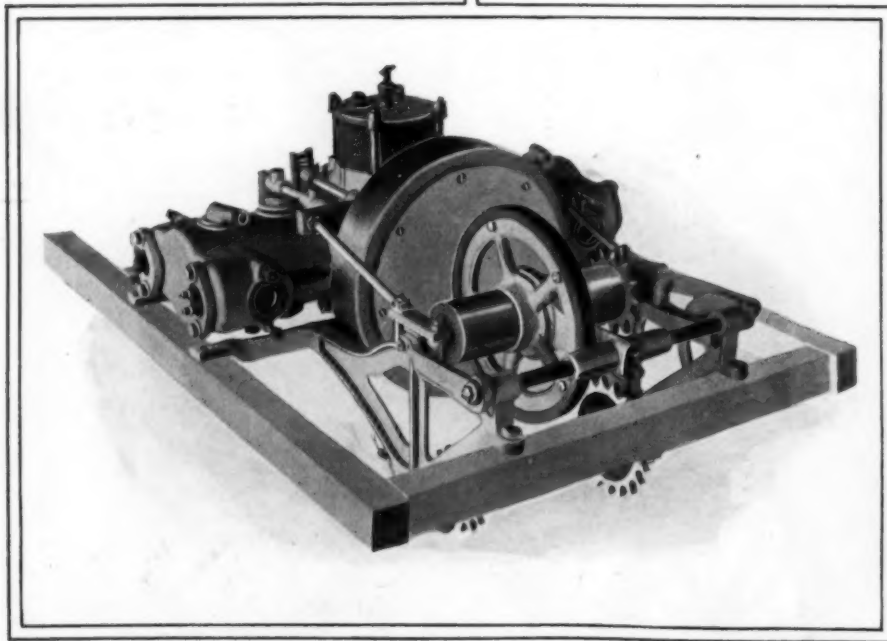
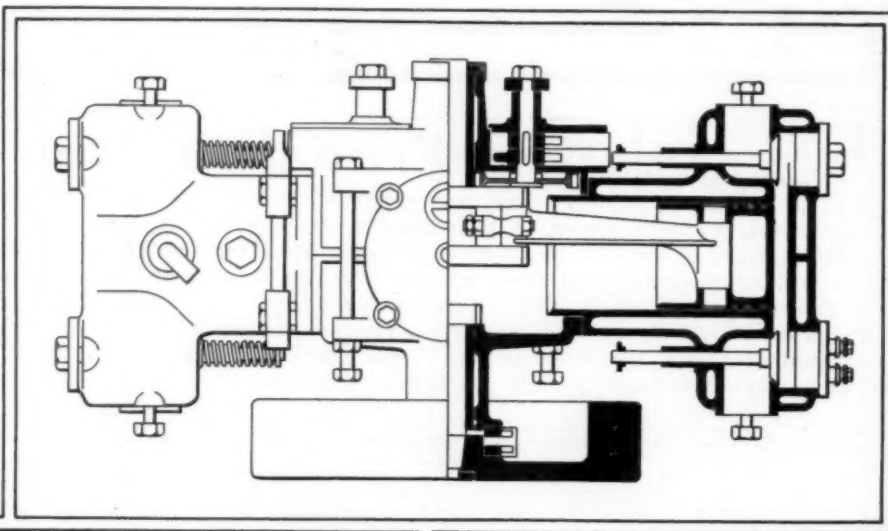
No attempt is made to supply automatically starting and stopping oil-feed for the motor lubrication, but the direct gravity feed is simple in arrangement, and may be turned on or off from the seat. Upon the top of the motor crank chamber is a 2-qt. cylindrical oil reservoir, in whose center is a needle valve, which com-

ing of oil in the combustion chambers.

While the jump-spark system of electric ignition is used, the common practice of grounding one pole of the circuit by bringing the motor and metal parts into it, is not followed. There are two spark plugs in each cylinder, and the entire circuit is by wire and well insulated. The advantage urged for this system is that it is not affected by moisture, and permits running in a rainstorm. The igni-

By this system the operation of the inlet valves is rendered positive and quick, as much heavier springs than usually employed can be used; in fact, the springs are the same as those on the exhaust valves, being lighter only in that they are not given quite as much tension.

In the system of fuel supply the unusual practice of providing a separate carbureter for each cylinder is followed. This is done chiefly to avoid a jumble of pip-



THE MOTOR AND FRICTION DRIVE

municates directly with the crank chamber. The valve stem projects through the body-top so that it is within convenient reach of the operator. In connection with the splash lubrication system is an air-vent for the crank chamber, which being controlled by a ball check valve opening outward, allows the formation of a partial vacuum within the chamber, this tending to prevent the passage of oil outward past the pistons into the cylinder heads. It is said that this device materially lessens the chance of smoking, due to burn-

tion current is supplied by 36-ampere Vesta storage batteries, which are supported within a case hung underneath the floor of the body.

Inlet and Valve Control

Another distinctive feature of the motor is the mechanical control of the inlet valves. The two-to-one gear combines with a double cam system for each cylinder, whereby one cam lifts the exhaust valve and the other actuates a lever arm on a cross shaft at the opposite end of which a second lever lifts the inlet valve.

ing—one point at least in which the Friedman sets a worthy example, for, in some vehicles of excellent construction, the various pipes are so inter-crossed and over-run with one another that they form an untidy combination, which, to a greater or less degree, lessens accessibility of motor parts. The double carburation system also provides means for readily and economically running on one cylinder should the other be accidentally disabled while on the road. Each of the two carbureters is placed directly in front of its respective motor cylinder, and is connected to the inlet valve by a straight pipe leading from delivery branch. The gasoline tank is under the seat. The fuel delivery to the carbureters is through a central opening to a T pipe, in each end of which there is a cock controlling the flow of fuel to the adjacent carbureter. Being directly behind the seat flap, these cocks are within reach of the operator from the seat.

Heating the Mixture

Heating to assist vaporization and an automatic cut-off for the entrance of raw gasoline, are the most important features of the Friedman carbureter. The former object is secured by forming the carburation chamber portion of the main body with a double wall. Through the jacket thus formed heated water from the motor is passed before it is finally returned to the cooling radiators. The body of the carbureter is a vertical cylinder open at the top to allow the free entrance of air. Projecting into the upper position hori-

zonally is the fuel tube, which ends in a central vertical needle valve chamber. The valve is controlled by a screw threaded stem projecting upward sufficiently above the carbureter wall to permit the attachment of a cross handle and a curved flat spring to lock it in the adjusted position.

In the carburation chamber portion of the body is a concentric vertical plunger tube, which forms a bearing for a block or plunger upon a central rod which passes upward almost to the needle valve chamber and downward through a bearing in the bottom of the carbureter. This rod bears at its upper end a half-spherical leather tip or cup surmounting a conical head, and adapted to seat itself within the concave lower end of the needle valve chamber to shut off the flow of gasoline. Below the carburation chamber the rod is fitted with a concentric flat plate, which extends to the wall of the lower chamber. Below this plate is a stout coil spring that tends to keep the leather rod cap firmly seated. Surrounding the plunger guide tube is a series of horizontal screens. The delivery tube connects with the lower chamber.

Operation of the Carbureter

Upon the occurrence of the suction stroke of the motor the central stem is drawn downward, thus lowering the stem plate past the under edge of the concentric bushing or inner wall that encom-

the sectional illustration of the carbureter, being within the portion which is water-jacketed for heating. After reaching the lower chamber the vapor passes directly into the delivery tube. When the induction valve is closed the carbureter controlling stem is lifted by its spring, thus shutting off the entrance of raw gasoline and raising the diaphragm or plate above

inlet valves were opened by suction instead of mechanically, as with the mechanically controlled valve; the only event likely to cause failure to close would be the lodging of some foreign matter in the valve seat.

The Cooling System

A combination of water tank and cooling pipes is the peculiarity of the water



THE MUFFLER

the lateral opening from the lower chamber into the delivery tube.

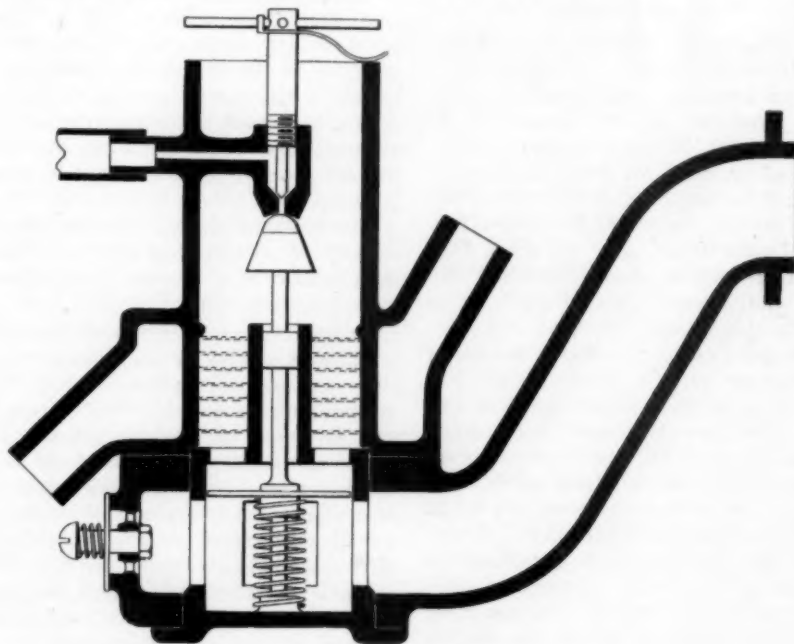
In the lower chamber, opposite the delivery tube, is an aperture in the wall which is closed by a spring backed flat valve. This is provided as a vent for gas blown backward in the event of the motor induction valve failing to seat. The direct

circulation system. Instead of a double or triple row of small radiating tubes used in combination with a water reservoir, the vehicle has a bank of fifty-three 1-in. brass pipes of 26-gauge and 28 ins. long. These are arranged across the front to give the appearance of a built-up or box dash. They are without radiation ribs, but have a combined surface or radiating area of 32 sq. ft. Their water capacity is 6 gals. These pipes thus form a tubular tank of large surface area, and which serves as its own heat-radiating coil. The circulation of the water is maintained by a small rotary gear pump, which is placed underneath the motor and driven by sprockets and chain from the motor crank shaft.

The Muffler

The muffler is built upon the principle of a gradual expansion of the gases. It comprises two pieces which form end seats for four concentric tubes through the central one of which passes a tie rod to secure the parts. The entrance of the gases is double, the exhaust pipe from one cylinder entering at one end and that from the other at the opposite end. The muffler being disposed crosswise under the rear end of the body the piping to the motor is accordingly simple, each pipe running straight down from an L connection at the motor exhaust valve chamber.

Near each end of the innermost muffler tube is a band of small holes, while in the second tube there is but one central series of holes. The double end series are repeated in the third tube while the final outlet from the fourth and outermost tube is through a group of holes near the bottom and projected slightly backward to discharge the gases both downward and back. This arrangement of the holes connecting the concentric tubes forces the gases to take



THE CARBURETER

passes it when it is in the uppermost position. This movement also, of course, draws the leather valve away from its seat and allows the entrance of raw gasoline, which is met by a downward rush of air from the top of the carbureter cylinder. The mixture is broken up and vaporized as it passes downward through the series of screens, these, as shown in

discharge of the gas through this vent in such an instance prevents the leather valve at the gasoline inlet from being driven forcibly against its seat, an action which might eventually pound the leather out of shape. This provision, while advisable and not complicating the apparatus or affecting its normal action in any way, is not needed as much as though the motor

a devious route in passing outward through the series and tends to cause an even expansion to the full limit of each compartment before the succeeding one is reached.

The brake is a simple band brake acting upon a drum on the rear axle and operated by a foot lever with ratchet lock.

The Friction Gear

Transmission by friction has been attempted by experimenters in many different ways. In this wagon it is secured by the simplest method—that of driving from the face of the flywheel to a traveling cross pulley from whose shaft the transmission to the driving wheels of the vehicle is taken. The flywheel is faced with copper, the maker after experimenting having chosen this as more durable than leather. The driven pulley is splined to a large tubular shaft whose extraordinary diameter permits the use of internal ball bearings at its extremities without preventing the pulley from sliding its full length. At one end of the shaft is a sprocket driving to a counter shaft from which the power is transmitted directly to the differential on the live rear axle by a chain. The axle upon which this tubular shaft or sleeve rotates is mounted in sliding blocks so that it can be moved toward and away from the copper-faced flywheel. Its position is governed by end links connected to short offsets or cranks upon the ends of a cross shaft in front of the traveling pulley. This shaft is provided with a depending crank-arm which is connected to the steering tiller, the latter being hinged on its post and prolonged to form a first class lever. By this arrangement the friction pulley can be brought into contact with the flywheel face by pressing downward on the handle end of the steering tiller, while the degree of such pressure regulates the degree of frictional pressure between the two wheels. The device is self-releasing, so that the transmission is disconnected unless the tiller is pressed downward. Though the operator must necessarily maintain this pressure while driving the vehicle it is not tiresome because of the long leverage afforded by the tiller.

The Speed-Change Gear

The control of the crosswise movement of the traveling pulley is by means of a side lever. The lower end of this lever is attached to a stout wire rope which runs over four pulleys so that the backward and forward movement of the rope-run to which the lever is attached is transformed to a lateral movement for the two front runs. One of these runs is attached to a sliding block upon the shaft controlling the backward and forward movement of the traveling pulley and which also connects to the hub of the pulley. Accordingly the forward and backward movement of the side lever causes the friction pulley to move across the face of the flywheel—giving single lever control for a drive of from nothing to the maximum speed forward and

from nothing to a speed of about 6 or 8 miles backward.

This friction transmission comprises the only provision for speed change, with the exception of the spark lead, there being no means for throttling the fuel charge. The spark may be advanced for speeding by means of a small foot lever which is self-locking, to remain where set until released by foot pressure upon an adjacent pin.

The elasticity and simplicity of control of this speed-governing system is plain. The spark lead has nothing to do with the speed of the vehicle. It simply regulates the speed of the motor. The control of the transmission by the single side lever regulates the speed and direction of drive of the vehicle so that, even with the spark lead advanced to give the motor its highest possible speed, the vehicle can be driven as slowly as desired. In driving the vehicle the operator can combine the handling of the spark lead with that of the side lever to obtain the most efficient results. For instance, when running under fair conditions high speed can be secured by shifting the friction drive to its fastest point and by also advancing the spark. On the other hand, should a rough stretch of road or a steep hill be encountered, the spark can be advanced to give the most efficient motor speed and then, by means of the side lever, the friction transmission shifted to as slow a speed as is necessary to negotiate the grade.

Theoretical Advantages

It is this absolute elasticity of speed control without jumps from one speed to another mechanically, with breaches within which speed can only be changed at the motor, and this absolute exchange of power for speed or speed for power that render friction drive attractive. There is no doubt that a certain amount of the power produced by the motor is wasted in the friction drive—more than in some other systems. But in connection with this waste there is also always the actual delivery—the remaining energy, whether it be used as speed or power.

If the designer of a friction-driven machine determines the need of a certain amount of power actually delivered to the driving wheels and builds a motor sufficiently more powerful to provide for the loss in transmission, he then has a constant power at the wheels which can be used for speeding or for hill climbing without depreciation. On the other hand, the designer of the gear transmission machine can use a motor which does not produce as much more power than that delivered to the wheels as that of the friction drive machine, the loss in transmission being less. But in order to make speed changes between the stages of the transmission gear the speed of the motor must be changed by means which often lessen its efficiency; so that the delivery of energy to the driving wheels is not constant and in the instance of a grade which is too steep to be readily

climbed, even on the slow gear, the motor may be pulled down by the load until, by loss of both speed and power, it stops. The discrimination between the two systems of transmission is that one gives a constant loss and a constant delivery of energy, while the other gives an irregular loss and an irregular delivery of energy. The friction drive has simplicity and the convenience of elastic control as an additional advantage to its constant delivery of power. As an additional disadvantage to its constant loss of power it is somewhat more noisy than several of the other type of transmission gear.

Practical Results

The relative importance in practice of the theoretical advantages and disadvantages of friction drive is well exemplified by the Friedman road wagon. That its speed control is simple and elastic is beyond question. The noise in running is not excessive and is in fact not as great as that of some other gasoline vehicles of the same class, but with gear drives. That there is an appreciable loss of power in transmission is shown by the fact that the vehicle does not develop the high speed of some other vehicles of the same size motor. But it is not intended for extremely high speeds, and the difference in size between its motor and that of vehicles of similar size and running ability is not enough to prove really disadvantageous from the points of weight, economy and convenience in construction and economy in operation. That its constant pulling power is sufficient for the purpose of the vehicle is shown by the rough work to which some of the machines have been put during the past few months. Recently, for example, one of the wagons successfully carried four passengers over the worst stretch of road in the course of the coming Chicago endurance test, and in addition gave material towing assistance to a large touring car, one of whose cylinders had been disabled.

Friction drive may not be the most advantageous system for high power touring and speed cars where power is the chief requisite; but in vehicles of the class to which the Friedman belongs—for general utility under all conditions—it is hard for a conscientious observer, after having ridden in this wagon and taken note of the ease of handling and speed control, to actually believe that the loss of power and the slightly larger motor necessitated by it are disadvantages of anywhere near equal importance to the obvious advantages.

DISCRETION OR VALOR

The motorists of Boston are now concerned over a very important question; whether, after an accident, it is better for a driver to put on full speed and run away, like a coward, without stopping to ascertain the possible harm done, or to stay—and be mobbed? Each situation has its disadvantages.

The Gasoline Vehicle

V. VAPORIZERS AND CARBURETERS*

The importance of providing the high-speed gasoline motor with a mixture both correct in proportion and intimately commingled, as regards the air and gasoline vapor, was touched on in a previous article. Let us see what this involves.

Surface Carbureters Undesirable

Commercial gasoline, to begin with, is a liquid of very variable composition, containing as it does petroleum products of all degrees of density from 88 degrees Beaumé down to simple kerosene, and being classified according to the average density of its constituents. As it is obtained by fractional distillation, the larger part of any given grade is supposed to be of nearly the density of the whole, but as a matter of fact any sample of gasoline may be separated, by redistillation or by atmospheric evaporation, into light and heavy components; and any sample, if left uncovered long enough, will give off according to its density a greater or less percentage of vapor, leaving a relatively heavy and inert residuum which requires the application of heat to convert it into vapor. The lightest gasoline usually obtainable, of about 86 degrees density, will nearly all evaporate, under atmospheric pressure only, at the temperatures usual in summer. "Stove gasoline," supposed to be of 74 degrees density, will evaporate if given time, but the latter half of it will be noticeably heavier than the original mixture, and will go off much more slowly. Hence the frequently observed phenomenon of the failure of gasoline, which has been exposed to the air for some time uncovered, to give a good explosive mixture unless heated.

From the above facts, it is obvious that "surface carbureters" in any form, in which a stream of air is drawn over the top of, or made to bubble through, a body of gasoline so large that the air can become saturated merely by taking up the lightest portion of the gasoline and leaving the rest, are inherently objectionable, both because there is sure to be more or less unusable residuum which must be thrown away, and because the richness of the mixture will depend on the original density and the freshness of the gasoline, necessitating continual readjustment of the dilution air inlet to reduce the saturated or partly saturated mixture to the correct proportions for combustion. To avoid this inconvenience and waste, the almost universal practice to-day is to feed the gasoline in a small stream, just so much as needed

and no more, into a sharp stream of air, which breaks up the gasoline into spray and evaporates it as it is hurried along to the motor. Thus the evaporation is per-

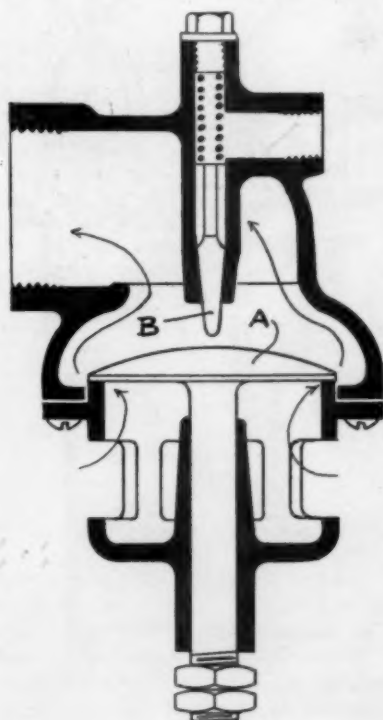


Fig. 1

force complete, or if not, the liquid is still carried as spray to the cylinder and evaporated by the heat there; and moreover the mixture is as nearly as possible uniform throughout.

Two Early Vaporizers

One of the earliest and simplest devices for feeding liquid gasoline into the air stream in this manner is shown in Fig. 1, where the air stream is made to lift a disc or valve A, whose head lifts a small needle valve B, closing the gasoline orifice. The carburetted stream thus formed is subsequently diluted by pure air entering through an adjustable orifice. A modified arrangement giving a similar result is shown in Fig. 2, where the gasoline orifices (one or more) are in the seat of a check valve through which the air is drawn. In either arrangement the gasoline is drawn from a tank above the valve, and is prevented from flowing between suction strokes by the closing of the valve.

These devices, however, while they operate very satisfactorily on stationary and marine motors, have several defects as applied to automobiles. The air valve itself constitutes an extra and undesirable resistance to be overcome, and a resistance

which, owing to the weight of the valve and the necessarily stiff spring to close it promptly, may become serious at high speeds. Moreover, the automobile motor is frequently run at slow speed or with reduced charges, and, owing to the variations in grade and road surface, the speed and the volume of the charges bear no necessary relation to each other. This is particularly true when, as in many American machines, there is but one principal forward speed by gearing, and ordinary changes are had by throttling the motor. Obviously, in the devices just described, the flow of gasoline, so far as it is due to gravity and not to direct suction, is not affected by changes in the air current, and an irregular mixture will result. Finally, the "head" of the gasoline will itself vary according to whether the tank is full or empty.

Requirements of the Perfect Vaporizer

The perfect vaporizer for automobile use should operate in such a manner that every ounce of air drawn in gets its due quota of gasoline, regardless of the level of the gasoline in the tank, of the engine speed, and of whether the engine is working throttled or wide open. It should not readily be disturbed by jolting of the vehicle or by tilting, it should use the gasoline to the last drop without separating the more volatile from the less volatile portions, and it should have not more than two adjustments—one to compensate for original differences in the density and heating value of the gasoline supplied to it, and one for changes in temperature with the seasons. Incidentally, it should be easily cleaned of any dirt that may get into the gasoline orifice or the valves, and it should permit of starting the motor without material change from the normal running mixture.

The first of these multifold requirements—that the level in the tank shall not affect the gasoline flow—is usually met by passing the gasoline through a small receiver on its way from the main tank,

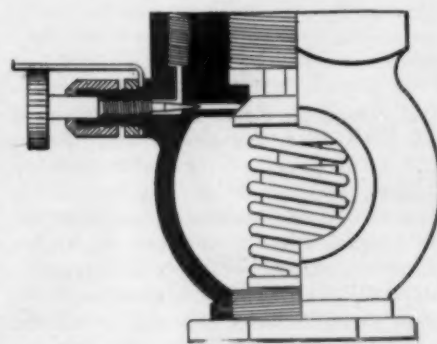


Fig. 2

and maintaining a constant level in the former by a float acting on a valve at its inlet. Thus there is always a uniform "head" of gasoline at the spraying orifice. To avoid so far as possible disturbance of the float by jolting of the vehicle, the sides of the chamber containing it conform to

* The series on "The Gasoline Vehicle" was begun in the issue of June 7. Although treating of a common subject, the several articles will be self attained, so that any of them may be read without reference to others of the series.

the float in shape and size as nearly as possible, so that there can be but little motion of either the float or the surrounding liquid independently of the other.

A Typical Modern Vaporizer

The second condition—that a rapid air current shall receive gasoline proportion-

shifted (by rotating the baffle plate by means of the stem M) to cover more or less of the opening in K. Thus the passage through the latter is more or less obstructed, and the proportions of the mixture may be thus altered. To throttle the mixture without changing its proportions,

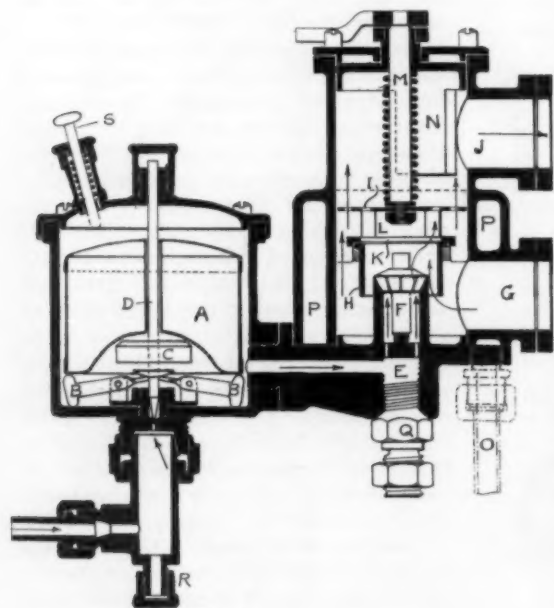


Fig. 3

ally faster than a slow current—is met in various ways, the basis of most of which is to place the spraying orifice as nearly as possible level with the top of the gasoline in the float chamber, so as to eliminate altogether the “head” of the liquid, and leave the air stream to suck the gasoline wholly by its own velocity, on the principle of the atomizer. Thus a slow stream of air will suck the gasoline slowly, and a quick stream will draw on it rapidly. One of the best-known vaporizers embodying this principle is the Longuemare, the type of a numerous line of similar constructions made in France. It is shown in Fig. 3. Like most of its kind, it contains the float and mixing chambers in one piece of apparatus. The float A is of sheet copper. Its edges bear on the ends of two short levers BB, whose inner ends support the weight C, to which is secured the stem D of a needle valve closing the orifice by which the gasoline from the tank enters the float chamber. As the gasoline level falls in the float chamber, the float sinks and the needle valve is opened. From the float chamber the gasoline goes to the space E, above which is a plug F, with a conical head in the side of which are the spraying orifices. Fresh air enters at G, and part of it goes inside and part outside of the ring H. The former portion by its velocity draws gasoline with it, and the carbureted and uncarbureted portions mingle as they pass through the perforated baffle plate I and pass out to the supply pipe at J. The fixed cover plate K is cut open for only a portion of its area, and attached to the baffle plate is a segmental piece L, which may be

the shutter N may be rotated to cover more or less of the opening J.

As gasoline absorbs heat in evaporating, this heat is supplied by connecting the pipe O with the exhaust, whereby a small portion of the hot gases are made to pass through the annular space P. Openings for cleaning out any dirt that may accumulate

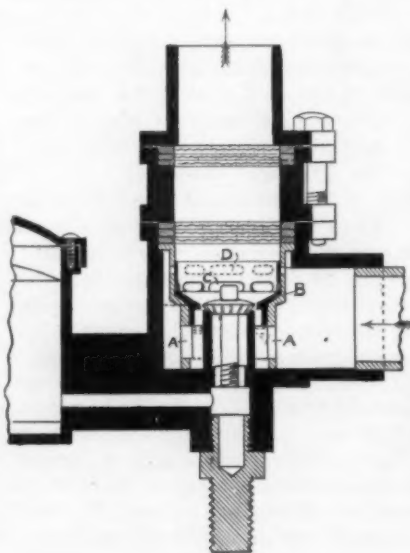


Fig. 5

are provided at Q and R. To facilitate starting, when the slow “cranking” by hand would be insufficient to suck gasoline in the regular way, the pin S is provided, by means of which the float may be pushed down and fresh gasoline allowed to overflow through the spraying orifices.

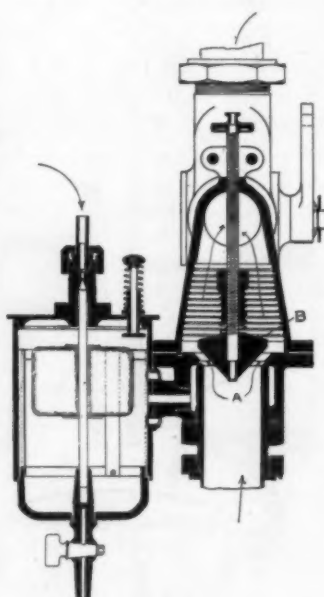


Fig. 4

In the Longuemare, as in most other vaporizers of its kind, the normal level of the gasoline in the float chamber is a little below the spraying orifice, in order that when the engine is stopped the gasoline shall not run out and “flood” the mixing chamber. Probably this is partly the reason for the fact which some makers claim to have found, that a slow stream of air takes up proportionally less gasoline than a sharp stream. To balance this, several makers provide either for an automatic increase in the air passage past the gasoline orifices, as the suction increases, or for the opening of supplementary dilution passages. The Georges Richard carburetor, shown in Fig. 4, is almost self-explanatory. The spraying orifices are at A, and as the intensity of the air stream increases, the conical frustum B, backed by the spring, is pushed up by the air, thus increasing the opening around it and reducing the intensity of the suction at that point.

In the Packard vaporizer, Fig. 5, the rush of air through the apertures A carries upward with it the flanged ring B, in the walls of which are holes, C, which, when the ring is up, register with holes, D, in the wall of the mixing chamber, through which a portion of the air is then drawn without contributing to the suction at the gasoline orifice. In another American machine, the Autocar, a throttle is combined with the mixing chamber, and in the mixing chamber itself a partition divides the incoming air into two streams, one of which draws past the gasoline orifice and the other does not. Both streams mingle as they leave the mixing chamber by the throttle aperture, and as the latter is closed by the operator a shutter acts simultaneously

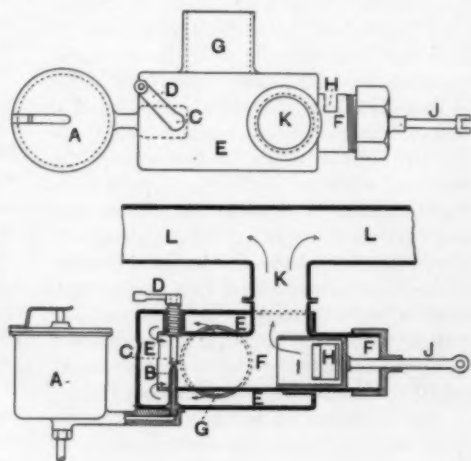


Fig. 6

to cut off part of the diluting stream and increase the proportion of carbureted air.

The combined carburetor and throttle used on the Mercedes “Simplex” machines is shown diagrammatically in Fig. 6, taken from *The Autocar* and showing a top view and vertical section. In the figures, A is

the float chamber, B the spray nozzle, and C a stop carried by the coarse-pitch screw, and raised or lowered, to increase or reduce the gasoline flow, by moving the lever D. The principal stream of air, warmed by passing around the exhaust pipes, enters the annular chamber E by the pipe G. Following the arrows, it is drawn past the gasoline nozzle B and up into the branched pipe K L, which leads directly to the two inlet valves of a pair of cylinders. A second and smaller stream of air enters by the slot H in the tube F. Inside this tube is a slotted sleeve I with the right end closed, and which, being shifted by means of the stem J to the left or right, will partially cover or uncover the slot in H. At the same time, when it moves to the left it partially obstructs the passage, both of the carburetted air and of the diluting stream, so that this throttling is coincident with a reduction in the proportion of pure air entering at H.

As the result aimed at in this and the other arrangements just described is to render the proportion of gasoline to air a constant quantity, it is evident that, so far as the result is accomplished, it will make no difference whether a slow rate of air suction is due to slow piston speed or to a partially closed throttle; its effect on the gasoline suction will be the same in either case. In practice, the result is so nearly perfect that no adjustment of the gasoline orifice is needed for variations of speed, and the most that is required is an adjustment for different densities of gasoline or for changes in air temperature; and these are very slight and are often combined in one.

An Independent Type

Thus far only devices in which the spraying nozzle is near the gasoline level in the float chamber have been considered. In one prominent American machine, however—the Haynes-Apperson—the vaporizers (one for each cylinder) are several inches below the float chamber, and the volume of the gasoline spray is varied chiefly by regulating the orifice to suit the throttle opening. As shown in Fig. 7, which represents the latest type, this apparatus is a modification of those shown in Figs. 1 and 2. The air entering at A passes through the throttle openings BB and forces downward the conical valve C, whose apex closes the gasoline orifice. The gasoline spreads over the cone and is evaporated by the air passing over it. Variation in the aperture through which the gasoline passes is obtained by operating the needle valve D by the same lever E which rotates disk F to open or close the throttle openings. As shown, movement of the lever clockwise or away from the observer closes the throttle and screws the

needle valve a little closer to its seat. Adjustment of the valve relatively to the throttle is accomplished by drawing back the pin G, against the spring H, and ro—

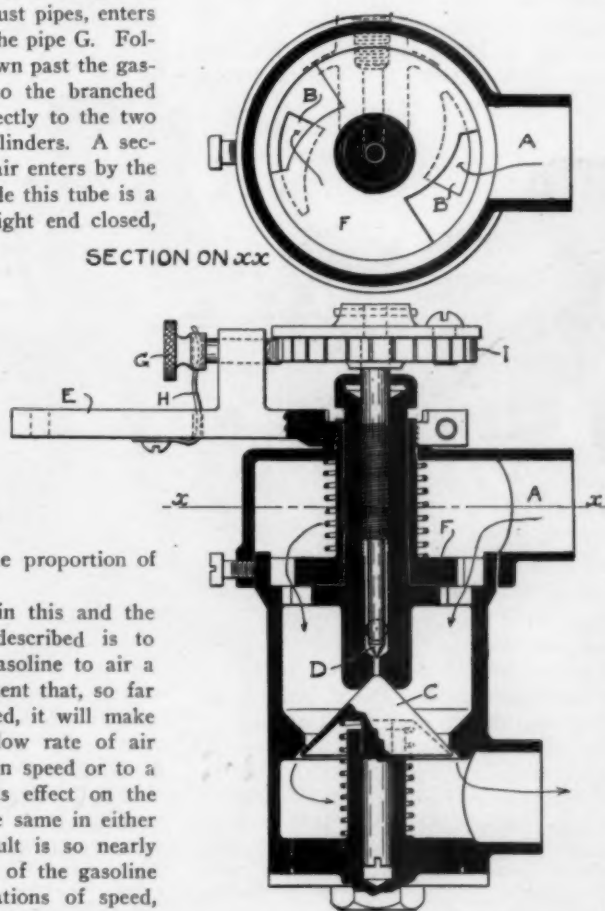


Fig. 7

tating the head I till the desired notch is opposite the pin. This apparatus differs from those previously shown in the important fact that the air passes through the throttle before instead of after it sucks the gasoline. Consequently, the more the throttle is closed, the more intense is the suction, quite independently of the mere velocity of the air. It is evident, therefore, that the gasoline aperture must necessarily be reduced to prevent an excessive amount of the liquid from being sucked through.

By one of those accidents which occasionally occur to bring confusion into the best-regulated newspaper offices, the cut, Fig. 1, in the article on "High Speed and Valve Design," last week, was published inverted. Probably none of our readers was puzzled thereby, but they may have been by two misprints in the first column of page 5, in the same article. In the first value of P , in the numerator, the expression $6\sqrt{2}$ should have been $b\sqrt{2}$, and in the next value, immediately below, the expression $\frac{1}{4}c^2$, in the denominator, should have been $\frac{1}{4}c^3$. The value of P , in the final transformation was correctly given.

Max C. Fleischman left Cincinnati on July 11 in his Gasmobile intending to make the trip overland to his summer home in the Catskill Mountains. Mr. Fleischman is the first Cincinnati to undertake such a long trip in an automobile

GASOLINE

BY REGINALD WALES

The attempt to treat exhaustively and systematically of every grade of gasoline which it pleases the Standard Oil Co. to produce would not only plunge the reader, but the writer as well, into the depths of a mystery that is comprehensible only to experts. In order to successfully evade this difficulty, it is best to take only the several products of this immense corporation with which the motorist is directly concerned.

Gasoline meeting the high and low tests would relatively be placed at 64° and 78° , the latter being practically the most refined product required in any line as an agent for fuel. Indeed, at this test it becomes almost an impossibility to preserve the original volume, because of evaporation. Few storekeepers care to handle goods at a loss, and this is just what they must do with the exceptionally high grade if it has been in stock any great length of time with no special provisions made for its keeping. It may unhesitatingly be stated—since it has been undeniably proven—that the lower test fluid contains much dirt and sediment, which are noticeably absent in the more refined grade. This would indeed be a virtue of the utmost value to the user of the steam vehicle who has, as his first consideration, these mischievous agents to guard against. It is stated, however, that, during the process of refining, the explosive qualities are seriously affected; from this may be questioned its entire adaptability to the explosion motor, since these qualities are eminently important. It is not well to use a grade that is too crude, but it is well—at least, experience would so dictate—not to depend upon an extremely high one for greatest motoric efficiency. Besides, the additional cost, it cannot create as powerful an explosion; neither is it readily obtained in rural districts.

Dangers of Low-Test Gasoline

There seems to be prevalent among manufacturers of both steam and gasoline carriages an erroneous theory of burner construction in the first instance, and engine construction in the second, to give only satisfactory results when a 76° or even higher test is used. As has been said, it is not easy and it is often impossible to procure a gasoline of this kind in country localities; and since the motor has been arranged to operate satisfactorily only with this grade, it would follow that any deviation therefrom would give rise to much trouble and no small annoyance. In so far as the steam vehicle is concerned, there need be no test if some rearrangement be made in the burners and some precaution taken to prevent the ingress of dirt into the tank. The owner, being thrown on his own resources, naturally takes recourse to a small and extremely fine strainer when he ascertains that only ordinary stove gasoline is to be procured. This gives no def-

inite test, very often falling as low as 64°.

If the dirt is not held in solution, it may readily be removed by the strainers, so that only the pure liquid goes into the reservoir. Some manufacturers partition off one quarter of the tank with a very fine wire netting, and as this compartment is immediately over the pipe supplying the carbureter, all

always faithfully mirrored through its working service. Apart from the gasoline itself, the carbureter is, categorically speaking, one of the most important features on the vehicle. The carbureter of to-day is much of an improvement over that of a year past, for in the more modern the manufacturers have taken measures of precau-

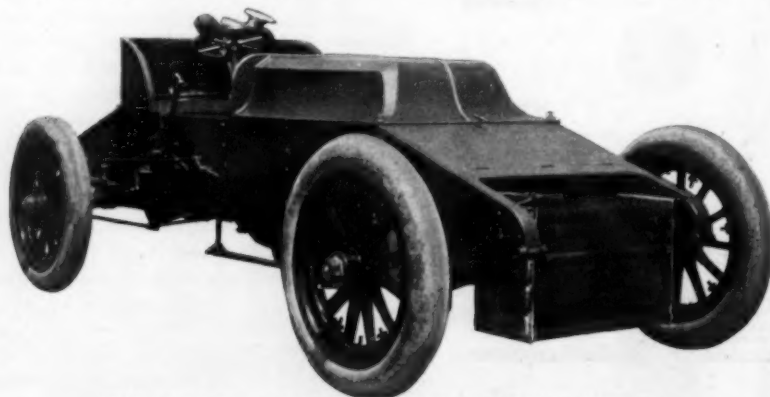
is quite all that is necessary to acquaint the motorist with the existing fault.

Unless there is a harmonious relation established between the air and gas mixture, there can be no satisfactory ignition. It is well to give this matter careful consideration, providing there is any device on your vehicle which allows of regulation and adjustment. Vibration of the machine may at any time impair and ruin either.

TRIAL OF "WINTON'S BULLET"

Details of the Unofficial Speed Trials in Which the Big Cleveland Racing Machine Beat the World's Mile Record

The accompanying photographs show the new racing car in which Alexander Winton covered seven-eighths of a mile at the rate of 51 1-5 seconds an hour in an unofficial trial on Clifton Boulevard in Cleveland, Ohio, June 27, as reported in these columns in the issue of July 5. One of the photographs was taken during the trials and shows the machine in motion at top speed. A straightaway course had been measured off on the boulevard, which is a new one, extending westward from Edgewater Park and is very long. The boulevard has not been completed and is not open to the public. Only seven-eighths of a mile was available for the trial and the surface was somewhat uneven, but in the center there was a portion that had been made smooth and hard as a rock by the passing of wagons over it. There was no dust whatever from the road during the fastest running.



THE BULLET—ALEXANDER WINTON'S NEW RACING CAR
Photographed by L. Van Oeyen, Cleveland

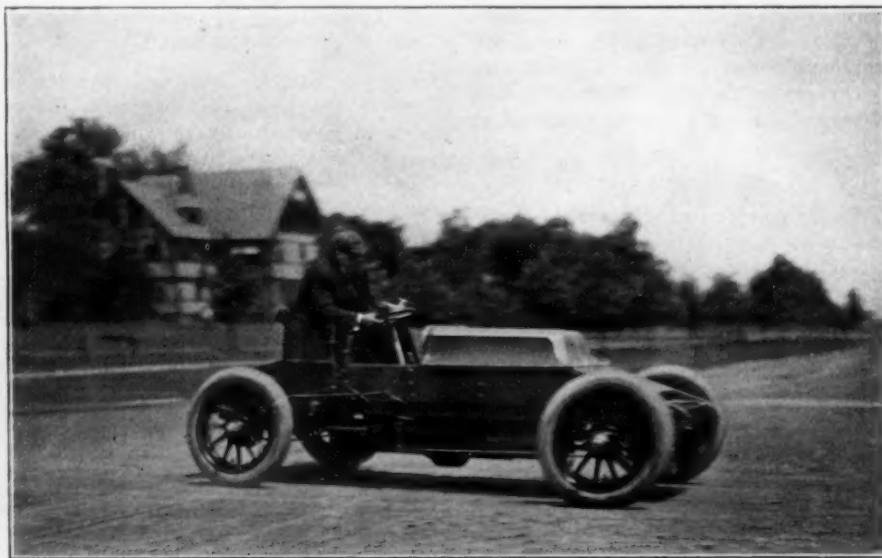
gasoline in this portion must undergo more or less effective straining. However, should this delicate wire, through any reason, become ruptured, allowing the fluid, with whatever impurities it may contain, to enter directly into the vaporizer, there must surely follow a condition in the motor which is not at all conducive to its proper operation. Such presence would manifest itself in explosions, whose strength would soon become greatly decreased, accompanied by a very peculiar sound. During protracted or dusty races, or when the course is covered with mud, the contestants are often obliged to stop and remove the accumulated dust or mud—whichever it may happen to be—from the carbureter because of its effect upon the running qualities of the machine. Dirt held in the gasoline and carried unrestricted down into the vaporizer would produce the same results. It obstructs the conducting pipes and all valves.

High-Test Gasoline

As already stated, there is no imperative demand for high-test fluid unless the motor be specially constructed to consume this grade only. The idea that maximum service cannot be obtained from other than 74° or 76° stock is fallacious. These grades may possibly be best for burning, but it is not fitted to cope with the lower grades when it comes to explosive qualities. I have given a road test to Penna. 76° gasoline, costing here 18 cents, afterward using ordinary crude stove quality, obtainable at 13 cents, and of the two trials much better results came of the cheaper product. The difference of 5 cents a gallon (this is the average relative cost, I find, between the two nearly everywhere in the West) would soon grow to be a matter of no mean importance.

The powerful influence which the carbureter brings to bear upon the motor is well known. Its internal conditions are

tion to prevent flooding and consequently ruining of the spark at the ignition centers. Yet even now there are many who have not effectively checked the tendency of an over-supply, and as long as there is an inadequate or unsuitable quantity admitted into the chamber, just that long will there be a failure in the motor. When the carbureter is in a flooded condition the explosions sounds extremely dull, while the carriage suffers severe loss in power and speed. Should there be an insufficient sup-



THE BULLET—ALEXANDER WINTON'S NEW RACING CAR. AT SPEED
Photographed by L. Van Oeyen, Cleveland., Copyright 1902

ply of gasoline delivered, the effect will be fully as marked as in the instance of an excessive quantity. In such a case, however, the carbureter would not necessarily be at fault, but rather the gasoline adjustment. Unlike the flooded spark and dull explosion, the impulse is sharp and of a metallic nature in sound, and this indication of itself

Alexander Winton managed the machine himself during the trial and was accompanied by his racing companion, Charles B. Shanks. He did not let the machine all out on the first trial, as he wanted to try the course, but Mr. Shanks' watch showed a rate of 1:01 2-5 for the mile.

On the second trial, when the "Bullet"

struck the start of the course, she was bowling along at a 70-mile clip. Half way down the course, while going at full speed, she struck a slight depression in the road and Mr. Shanks was nearly thrown from his seat, but the machine, under Mr. Winton's experienced hand, never swerved. At the finish of the course the watch showed 44 4-5

drive. The machine is equipped with a Porter storage battery of forty-two cells arranged in six cases; also a combination Weston volt-ammeter. The steering is by center lever, which can be thrown forward out of the way when entering or leaving the seat. The power is controlled by a lever at the left of the seat. There are three

TOURISTS' MACHINES ENTERED FREE

The regulations recently issued by the Treasury Department regarding the free entry of bicycles of tourists brought to this country for temporary use not exceeding 3 months, have been extended so as to include automobiles brought by tourists from abroad for a stay not exceeding 3 months, but in such cases formal entry will be required and a careful examination and appraisal made at the port of importation and a bond, with penalty in double the estimated duties under article 565 of the customs regulations, in the appended form, will be given by the importer, conditioned for due exportation of the automobile covered thereby within 3 months from the date of importation.

AUTOMOBILES IN CANADA

Arrangements have just been made between some of the largest American and French automobile concerns, and Mr. Corriveaux, of Montreal, Canada, in the interest of a Canadian syndicate, to exploit gasoline, steam and electric vehicles of French and American manufacture in Canada, it is reported. This syndicate, it is stated, will operate under the charter of the Montreal & Southern Counties Railway Co., which obtained amendments at the last session of Parliament for both its railway and an automobile system for operation on the island of Montreal and the districts on the south shore of the St. Lawrence River.

THE NEW TOLEDO DOS-A-DOS

The carriage shown in the accompanying illustration has all the well-known characteristics of the Toledo steam car, but some important changes have been made from the



NEW CENTURY ELECTRIC RUNABOUT

seconds for the seven-eighths of a mile, from which the computation was made that a full mile would have been covered in :51 1-5, but it is thought that the mile would have been covered in even less time, as the machine was increasing rather than diminishing its speed.

Not satisfied with the time, however, Mr. Winton was just preparing for a third trial when a spindle attached to a pinion which actuates the governor broke as the result of insufficient lubrication.

Mr. Winton will make another trial soon, when he expects to go the mile in 50 seconds or less. The builder declines to give out any details regarding the constructional features of the big racer and will not state the horsepower. It will be noted, however, that the power plant has been moved entirely to the front, and it is expected that this machine will be the model after which some 1903 Winton will be constructed. The motor is said to be a 4-cylinder upright engine, and the complete machine to weigh 2,000 lbs.

THE NEW CENTURY ELECTRIC

The vehicle shown in the photograph herewith reproduced is the first electric machine put on the market by the Century Motor Vehicle Co., of Syracuse, N. Y. It has the standard Century tubular gear with a wheel base of 68 ins. It has 32-in. wire wheels, 2½-in. Diamond tires in front and 3-in. in the rear. The motor is the L. O. Parker 2½-h.p., capable of 100 per cent. overload. The transmission is by bevel gears with direct shaft-

speeds forward and two back. There are electric side lamps, headlight and electric gong. The seat is 41 ins. wide and will carry three persons comfortably. A dos-a-dos seat can be attached, if desired. The brake is on the commutator and is operated by foot lever. It is instantaneous and will hold the carriage on any grade. The carriage weighs 1,200 lbs.



NEW DOSA-DOS TOLEDO STEAM CAR

In the Stanhope shown are seated Frederick H. Elliott and Mrs. Elliott, of this city. Mr. Elliott is secretary of the Automobile Club of Syracuse and secretary and treasurer of the Century Motor Vehicle Co.

older pattern of dos-a-dos. The details of the seats, with high backs comfortably upholstered, are clearly shown. The engine is of 7½-h.p., with the standard Toledo boiler and a 19-in. burner.

WOOD WHEEL CONSTRUCTION

While the users of motor vehicles are deeply interested in the question of the relative merits of wood, wire and tubular wheels, the former at least is so much a matter of course that little thought is given to its construction. The following, from *The Carriage Dealers' Journal*, shows how much there is to the real art and science of wheel making, and how dependent the user is on the integrity of the maker.

Take half a dozen catalogues of leading carriage manufacturers, and try to get some information on how vehicle wheels are made and what woods are best for the purpose, and you will not pick up a single line of information. Sell ten vehicles, to as many customers, and not a single purchaser will raise the question of wheel con-

struction or wheel material. This is due, not so much to the fact that the subject has no importance as to the general understanding or belief, at least, that all high-grade vehicles have high-grade wheels—made of the best kind of wood and in the best possible manner.

struction or wheel material. This is due, not so much to the fact that the subject has no importance as to the general understanding or belief, at least, that all high-grade vehicles have high-grade wheels—made of the best kind of wood and in the best possible manner.

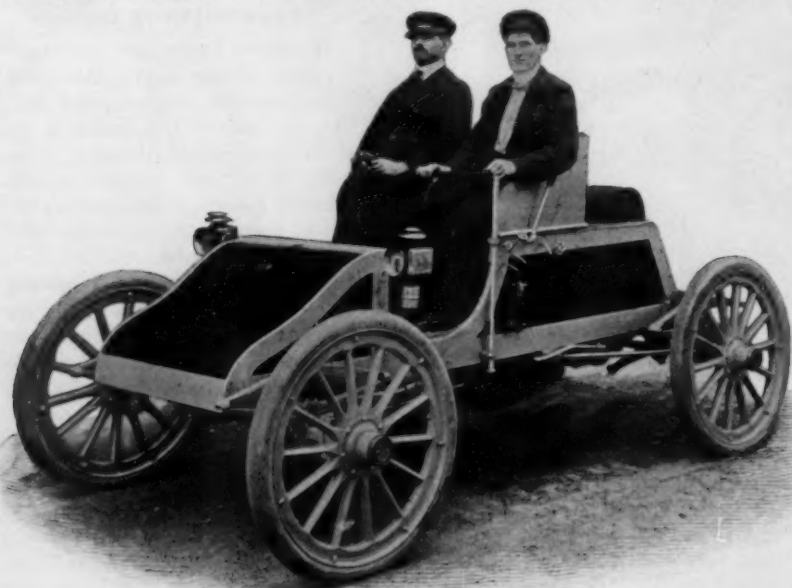
It is, therefore, safe to assume that the average dealer knows little in regard to wheel making, or the kinds of woods that are the best for the purpose.

Trade papers generally, and especially those devoted to the dealers' interests, have not given much space to this subject, for the reason that wheel-making is almost entirely confined to the great wheel factories of the country which supply the general trade. Even the smaller carriage and wagon factories, who make their own wheels, have modern machinery for the purpose and build wheels on the same lines as do the great wheel manufacturers.

There are still, however, quite a number of men building wagons who do it entirely by hand, and owing to the cheapness of the timber, they find it more profitable to make their heavy wheels than to buy them

from distant factories and pay heavy transportation charges. In the making of wagon wheels strength is, of course, the essential thing, and by reason of the fact that weight and appearance are of great importance, the making of a wagon wheel that will stand the strain it gets, is not nearly so difficult as the making of a light carriage wheel, where strength is only one of many points to be considered.

The first essential is the proper selection of the timber. For heavy wheels there is nothing better than white oak for the spokes and felloes, while black birch is equally as good for hubs. The best light hubs are made from elm and locust, if obtainable; if not, second-growth white or black oak is a good substitute.



THE HOWARD STEAM RACING CAR

Hickory has no equal for making either wagon or carriage spokes, in fact it is the only timber that can be successfully used where the spokes are one inch and under in size.

Both hickory and white ash are used for bent rims, although the former is the better wood for the purpose.

The hubs of heavy wheels should be made from fine-grained wood, rather than heavy-grained second-growth. Some manufacturers make the mistake of using the latter, and the result is a hub that lacks solidity and splits easily. A hub made of fine-grained oak or birch, however, will seldom shell or split and holds the spokes much tighter.

Another important point in hub making is that the center be as near as possible on the line of the pith, and that there be no knot: to make cross-grained layers. If attention is given to this point, the hub-band will shrink uniformly and maintain its circular form; whereas, if the center of the hub is not near the line of the pith the band will, when seasoned, be more or less flattened on one side.

White oak is the best known wood for heavy spokes. It has great strength and rigidity. The latter is one of its most valuable characteristics, and in this respect it is superior to hickory where elasticity is not an element of strength.

The goodness of a spoke depends on how it is cut from the log. It should always be split, not sawed, and cut in such a way that the grain layers will cross the bolt when the spoke is rounded. One reason for cutting a spoke in this way, is that wood shrinks less in the direction of the growth rings that cross them. Then, too, a spoke cut in that way is much stiffer than one cut with the grain layers running in the other direction.

Another point to be observed is to have the face of the spoke on the side nearest the sap, as the spoke will resist greater strain if so made than if the face is on the heart edge.

In selecting spokes care should be exercised to group those of each quality together. A wheel made of a mixture of qualities, including first, second and third qualities, will not wear as well as one made of all seconds or even thirds. This is due to the fact that the best grade spokes take the most of the wear, and give out, spoil the felloes or crush the hub, whereas, if the inferior quality is used throughout, the wear is equally distributed. Of course the better the spoke, if uniform, the better the wheel.

THE HOWARD STEAM RACING CAR

Much has been heard about the Howard steam racing machine constructed by the Howard Automobile Co., in Newark, N. J., and entered in the Staten Island speed trials of May 31. It did not compete in those trials, but we are informed that this machine has attained to a speed of a mile in 50 seconds, with three occupants, and the constructors are confident that when they go for the record officially, as they intend doing soon, it will create a new mile record. As the photograph shows, this is not a "freak" machine built only for racing, but is a practical road vehicle having the appearance of a stylish touring car. It is equipped with Munger tires.

READY ACCESS TO VALVES

A feature of motor-hood construction noticed on some recent Panhards, and which will be appreciated by users of multi-cylinder cars, in which the spark plugs are in the top of the cylinder heads, is the hinging at one end of the slightly raised roof of the hood, so that this can be swung up to give access to the plugs without removing the whole hood. The same feature would be welcome where access to the inlet valves for inspection or cleaning is given by removing a cap from the top of the valve cage, as in the Rochet-Schneider. It is not at present used on that machine, but probably some day it will be.



A TRIP ACROSS NEW JERSEY

OCEAN GROVE, N. J., July 14.—Editor THE AUTOMOBILE AND MOTOR REVIEW:—The following run was made without any delay or difficulty in a Mobile which, after some experience and some small changes of my own has proved a very satisfactory carriage.

Left Asbury Park, N. J., June 15, 7.05 A. M. Tanks full of water and gasoline. Arrived at Red Bank, 16 miles, at 7.50. First stop of 6 minutes near Middletown for water and air; arrived at Old Bridge 9.05. New Brunswick, 52 miles, at 9.30. Stopped 16 minutes for $3\frac{1}{2}$ gallons gasoline. Next stop of 8 minutes at White House, 72 miles, for water and air, arriving at Clinton at 12.15. Stopped for dinner. Left Clinton 1.30 P. M. Next stop at Bloomsburg, 12 miles, 100 miles, for water and air. Next stop, 15 minutes, crossing ferry. At Myers' Ferry took on water and air, arriving at East Stroudsburg at 5.15. Total mileage, 131 miles. Total gasoline used, 10 gallons. Total time on trip, 10 hours and 10 minutes; actual running time, 8 hours 10 minutes, or at the rate of a mile in 3.68 minutes.

Villages gone through—Red Bank, Matawan, Old Bridge, New Brunswick, Bound Brook, Somerville, White House, Lebanon Valley, Clinton, Glen Gardner, Asbury, Bloomsburg, Stewartville, New Village, Washington, Oxford Furnace, Buttsville, Bridgeville, Manunka Chunc, Ramsyburg, Delaware, Portland, Water Gap and East Stroudsburg.

Wednesday took on 5 gallons gasoline, went to Highland Dell House, down Cherry Valley Hill, up Wolf's Hollow over top of Fox Hill to Water Gap. From there to top of Mt. Minsi back to Water Gap and so to East Stroudsburg. Total mileage for the day, 43 miles.

Thursday, rain all day. Did not go out.

Friday took on 4 gallons gasoline, went around what is called Great Circle, in afternoon went to Mt. Pocono, going to top of same.

Blew out rubber in water glass twice. Total mileage, 51 miles.

Saturday took on $4\frac{1}{2}$ gallons gasoline; took short trips around town. Total mileage for day, 53 miles.

Monday took on 5 gallons gasoline, went to top of Mosher's Knob, a very high and steep mountain, said to be too steep for any automobile. Ascended without any trouble whatever. From there to Bushkill; rain came on and went 14 miles in a heavy rain. Total mileage, 33 miles.

Tuesday took 3 gallons of gasoline, went

to Dingman's on the famous Milford Pike, returning by the same way. Total mileage for day, 63 miles.

Wednesday took on 5 gallons gasoline and left for Ocean Grove 7.10 A. M. First stop at ferry to cross Delaware. Fifteen minutes crossing. Took on water next stop. Oxford Furnace, cut in tire. Eight minutes changing tires. Next stop Washington, 11 minutes for water and air. Next stop Somerville, at 12.20, for dinner. Water and $4\frac{1}{2}$ gallons gasoline. Left Somerville 2.10; arrived New Brunswick 3.00 P. M. Stopped at Old Bridge 7 minutes for water and air. Next stop Red Bank, 13 minutes, for water and air, arriving home 5.20 P. M.

Total mileage for trip, 505 miles. Total gasoline used, $34\frac{1}{2}$ gallons, or 1 gallon to every 13 miles. Blew rubber out of water glass twice, had four punctures; otherwise not any trouble of any kind.

NELSON H. KILMER.

WHAT DOCTORS WANT

The following letters from physicians who are desirous of purchasing automobiles for constant use will afford an idea of the character of service which is likely to be exacted of a motor vehicle by the medical profession:

SAUGERTIES, N. Y., July 9.—Editor THE AUTOMOBILE AND MOTOR REVIEW: I am looking for advice relating to the purchase of an automobile. I am in a rough, hilly country, and anything that would not be efficient under all conditions—in fact, anything that would not go wherever a horse and buggy can—would be of no use to me. I do not wish to pay more than \$1,000, and I would then want the machine to last for some time, as a carriage so light that it would be worn or played out after having run a few hundred miles would prove too expensive. A waterless machine of sufficient power would be best to my mind.

P. E. STAFFORD, M. D.

CENTRAL CITY, IA., July 12.—Editor THE AUTOMOBILE AND MOTOR REVIEW: I am deeply interested in the automobile, but do not own one, for the reason that I have not as yet been able to determine which would be the most practical machine for practicing medicine over the country roads; or whether an automobile would at present be practical for that purpose at all. It seems that many of the most prominent defects are being overcome rapidly, and that the automobile is becoming a reliable carriage to run under all conditions, and which will climb hills, refrain from balking in the middle of a muddy stretch or upon some lonely way-side of a rainy night.

I do not want a motor vehicle for a plaything, but as a carriage to take me through the darkest night and over the longest road and get me home safely. When I am convinced the automobile will do this I will discard the horses at once and get the motor carriage. I think the AUTOMOBILE AND MOTOR REVIEW keeps us posted on all of the new improvements, etc., but the great difficulty is for the amateur engineer to finally decide which machine to buy. The question of steam or gasoline is also one that is hard to settle. Of course, the electric machine is out of the debate where there is no charging station, and where one, like myself, is liable to go 25 miles from home in a night.

W. WOODBRIDGE, M. D.

A BREAK THAT BRAKED

From Southington, Conn., comes the report of an unique automobile runaway accident, which, however, did not result seriously to the occupants of the vehicle.

J. C. Robertson, of Boston, had the experience on Walcott Mountain last Friday afternoon in a run from Waterbury to Southington in a steam carriage. He had just left the summit of the mountain on the Meriden-Waterbury pike, expecting to coast the steep 2-mile grade. But something went wrong with the throttle and he could not shut off the steam. He was forced to take chances, alternately working throttle and brake in hope that the trouble would be remedied.

From summit to valley the highway, which is narrow, is without a bank on either side, guard rails being used all the way. Half way down the machine went over a "thank-you-marm" with a jolt that caused the forward portion of the body to break free and fall in front of the machine, which struck it, and Mr. Robertson was almost unseated by the jar.

The body portion was smashed into small sections. It, however, decreased the speed of the machine so that Mr. Robertson was enabled to safely pass an approaching carriage. The machine increased its speed to the foot of the mountain, where a stretch of sand retarded it sufficiently to allow Mr. Robertson to run his machine into a sandbank. Then the trouble was remedied and Mr. Robertson proceeded.

A PRIVATE ENDURANCE RUN

DORCHESTER, MASS., July 14.—Editor THE AUTOMOBILE AND MOTOR REVIEW:—I recently made an individual endurance run in my Model C Packard, accompanied by my wife, from Boston to Alton Bay, N. H., and return, a total distance of 220 miles. The trip was made at an average speed of 12 miles, with no accident of any kind, the first stop, for refreshments, being 81 miles out. From Boston to Dover, N. H., the roads were in good condition; from Dover to Rochester they were fair; but from Rochester to Alton Bay they were very sandy.

C. F. O.



MONMOUTH AND ARROW

On July 12 the steam yacht Arrow, which was designed by C. D. Mosher for a speed of at least 40 miles, had an informal race with the steamer Monmouth of the Sandy Hook Line. She picked up the big steamer as the latter left her pier at the foot of Rector St., North River, New York, and the two started at speed for the Atlantic Highlands, a distance of 21 miles. The Arrow soon took the lead, though using but one of her two Mosher boilers, and reached the Atlantic Highlands in 58 minutes from the start; the Monmouth took 1 hour 8 minutes for the distance, or 3 minutes less than her schedule time. Such so-called races as these are always inconclusive and unsatisfactory, as there is no reliable or accurate timing over exact courses and in most cases both boats claim the victory. In this case, however, there is no doubt that the Arrow outran the Monmouth by a considerable distance. This result in itself, however, is in no way satisfactory, as she should under both boilers be capable of nearly double the speed.

The question of the superior speed of various yachts and steamers comes up every few years, at more or less regular intervals, and it is about time for a new epidemic of scrub racing. It is possible that something more than this may result, and that a successful attempt may be made to run a special race, under reliable management, open to all steam craft. There are now about New York the yachts Arrow, Vamoose and Kanawha II, all rated as fast of their classes, and such steamers as the Monmouth, the Sandy Hook, the Richard Peck, the City of Lowell and the new side-wheel steamer William G. Payne. In addition to these is the new turbine yacht Revolution. A race between these craft, over an accurately measured course in deep water, such as that of the American Yacht Club from Larchmont to New London—90 nautical miles—would attract general interest. It is some years since the American Y. C. has made any effort to promote a steam race, and it might well take up the matter at this time.

A FATAL LAUNCH ACCIDENT

Jones Inlet, on the south shore of Long Island, was the scene of a sad disaster on the evening of July 9, when a cabin gasoline launch, whose name is not yet known, was capsized in the surf in attempting to cross the bar, drowning all on board. The launch was a new one, built by her owner, A. B. Lamb, of Dividing Creek, New Jersey, a shipbuilder, formerly a resident of

Center Moriches, Long Island. The launch left Dividing Creek on July 7, having on board, as it is supposed, Mr. and Mrs. Lamb, their son, a young boy, and Charles M. Howell, Mrs. Lamb's father. The launch, which is about 35 ft. over all, was stored for a cruise, the intention being to visit the old home of the party on Long Island. The sand bars in Jones Inlet change every year and the Government buoys, though maintained, are worse than useless as guides. Mr. Lamb was familiar with the Inlet some years ago, but in his ignorance of recent changes grounded the launch on the bar where she was overturned by the heavy seas. The disaster was seen from the shore, but it was impossible to give aid in time; Mrs. Lamb and the boy clung to the launch for some time, the others swimming about, but all finally succumbed to the seas.

On July 11 Mrs. Lamb's body was picked up by a fishing crew, a letter in her pocket giving the first clue to the home and identity of the party. On the same day the launch, keel upward, floated into the bay north of the Life Saving Station at Short Beach. Attempts were made to right it, but at the last reports they had been unsuccessful and nothing was known of the fate of the other bodies. Two trunks, with books, clothing and letters, were recovered from the wreck. The main cause of the accident was the grounding through ignorance of the channel in a dangerous locality; whether the design of the launch was in any way responsible for the capsizing is as yet unknown.

LAUNCHES IN THE BROOKLYN Y. C.

The Brooklyn Yacht Club, one of the oldest in the country, will hold its first race for power launches on August 9, an open race under The Rudder system of allowances.

The boats will be divided into five classes, according to their water line length, as follows: Red, all boats under 15 ft.; white, 15 ft. and under 20 ft.; blue, 20 ft. and under 25 ft.; green, 25 ft. and under 30 ft., and checkered, all boats over 30 ft.

The course will be from a line between two stake-boats anchored off the Brooklyn Y. C., in Gravesend Bay, thence to a mark off Fort Hamilton, thence to a stake-boat anchored off the steamboat dock at Sea Gate, Coney Island, thence to starting line. Red and white classes will go over this once; blue and green twice, and checkered three times. The preparatory signal will be given by firing a gun and hoisting the Blue Peter

at 2:30. At 2:35 a red ball will be hoisted and the red class started. At 2:40 a white ball will be hoisted and the white class started. At 2:45 a blue ball will be hoisted and the blue class started. At 2:50 a green ball will be hoisted and the green class started, and at 2:55 one white and one blue ball will be hoisted and the checkered class started.

All entries must be made on regular forms, to be had from John R. Brophy, chairman of the Race Committee of the Brooklyn Yacht Club, which must be returned to him no later than Friday, August 8. On the day of the race the visiting yachtsmen will be entertained by the House Committee. A special dinner will be served at the usual hour and during the afternoon and evening there will be a concert by the Thirteenth Regiment Band, and after sundown a display of fireworks will be given.

THE GROSVENOR BILL

WASHINGTON, D. C., July 10.—The first session of the Fifty-seventh Congress came to an end without any action being taken on the Grosvenor bill relating to small motor boats, the provisions of which have been under discussion in THE AUTOMOBILE AND MOTOR REVIEW since the time of the introduction of the bill in December last. This will undoubtedly be good news to all owners of boats under 15 tons burden. It is well, however, to call attention to the fact that the failure to pass this bill was primarily due to the fact that Congress had on its hands a large amount of important legislation which had to receive attention before the end of the session; and not to any fight made by the opponents of Representative Grosvenor's measure.

It is understood that the bill is to be introduced early in the next session, and that a new attempt will be made to force its passage. If this be true the opponents of the measure should not lose sight of the bill in the interim and should be ready to begin an effective campaign against it as soon as the measure again appears in Congress.

A STEEL GASOLINE LAUNCH

The Kaiser Boiler Works, of Kansas City, Mo., has built for J. H. Sharp, of that place, a steel hulled gasoline launch of 33 ft. length and 7 ft. breadth and 22 ins. draft. The frames are of 1 x 1 in. steel angles, spaced about 20 ins., and the hull plating is No. 16 blue annealed sheet steel. The hull is built in three separate sections, bolted together and separable for shipment. The decking is of No. 14 steel. The cockpit is 18 ft. long and 4 ft. 6 ins. wide, with room for about twenty passengers. A gasoline tank of 75 gals. capacity is built into the bow and a stowage locker is fitted aft. A gasoline motor of 6 h.p. is used. The launch is named Kansas City.

GOOD WORK OF POWER BOATS

Satisfactory Performances of Small Launches Under Everyday Working Conditions in Cruising and Towing

NEW LONDON, Conn., July 14. (Special Correspondence.)—Two long-distance launch voyages out of Mystic, made during the past few weeks, have interested owners of power boats and awakened them to the possibilities of the small craft.

Captain F. L. Gilpatrick, of Bridgeport, made a good run of nearly 350 miles between Mystic and Bar Harbor, Me. After having a 7½-h.p. Lathrop motor installed in his 25-ft. launch, he started east and made the run along the coast without a single mishap, covering the distance in 40 hours' actual running time. There is nothing on record hereabouts to equal this performance.

A leisurely run from Mystic to Boston in a new launch was made last week by F. N. Isham, of Mystic. The trip was made to deliver a 36-ft. cabin launch built by Mr. Isham for Clarence Hare, of Boston, the builder being accompanied by Mr. Hare and Henry Lamphere, a machinist. Starting at 8 A. M., the first day's run was to Wood's Hole, Mass., which was reached at 5:30 p. m. The next day's run was to Buzzard's Bay, with side trips along the route. The launch arrived at Boston at 10:30 A. M. on the third day. The actual running time was 35 hours, and 75 gals. of gasoline were consumed. Mr. Isham estimates the distance covered at more than 350 miles. The motor is a 12 h.p. Peerless, made by Mr. Isham.

The Chief, a 20-ton sloop, becalmed in the Thames river last Tuesday evening, was picked up by the launch Helen and towed to Norwich. The Helen is 18 ft. in length and has only a 2½-h.p. motor, but her owner never doubted the chances of moving the sloop, which had a cargo of 35 tons of cement. The towing job was accomplished in slow time, but it proved the utility of the launch, nevertheless.

A Peculiar Launch Accident

A. D. Wells, of Stratford, met with a painful accident last week which may leave him a cripple. He was in a naphtha launch cruising on the Housatonic river, when a boy in a rowboat asked him to tow him across the river. He consented and started toward the bow of the launch to catch the painter from the rowboat. In doing so he had to crawl around the engine, and, in passing, his right foot slipped and was caught in the flywheel. The foot was wrenched and the bones were badly crushed. The attending physicians say that there is a possibility of permanent lameness. Amputation was not resorted to, as it is hoped that the fractures will mend.

A New Sparking Device

H. A. Tuttle, of Stamford, is the latest Nutmeg State inventor applying for pat-

ents for improvements to gasoline engines, and he has hopes that his device will bring about perfect power for launches, automobiles and auxiliary yachts. Mr. Tuttle says: "Heretofore there has always been more or less difficulty in satisfactorily regulating the electric spark which causes the gasoline to explode in the cylinder. The spark would work all right for a time, then suddenly give out, causing annoyance and delay. I believe I have solved the problem and can produce an absolutely reliable spark."

A Hand-Power Launch

Joseph O. Lanouette, a Meriden carpenter, has startled the natives in his section with a hand-power launch. The boat will seat eight persons, has a canopy top, and navigates Hanover Lake. In the stern the builder has installed a system of gear wheels connected with the propeller shaft, to which is attached a heavy flywheel. Mr. Lanouette, seated in the stern, grasps a crank in each hand and, turning in opposited directions, begins grinding, and the launch is off—at fair speed. The steering apparatus is operated with the feet. The inventor alleges that his system is less exhausting than rowing, greater speed is possible and the operator facing the bow is certain of his course.

Mrs. J. L. Newman, of Fort Greble, has had a 10-h.p. Standard motor placed in her launch Lorna. This boat is used in Narragansett Bay, and is in charge of Captain Armbrust, who was for fifteen years pilot on the old steamer Conanicut. Captain W. L. W. Clarke, another old pilot, is operating the launch Alice in the bay, doing business at all shore resorts.

Captain J. W. Tryon, of East Hampton, Conn., has in the works a launch to be used on the Connecticut, and which will carry the builder's name. She is 25 ft. long and 7 ft. in breadth.

A NEW LAUNCH SHOP

MILWAUKEE, Wis., July 14. (Special Correspondence.)—Jones and La Borde, of Oshkosh, Wis., among the best known builders of boats in the Northwest, will manufacture gasoline launches on a large scale. This announcement has just been made and a stock company is now being organized. When complete, larger and better quarters will be secured.

The Oshkosh company has become famous through the performances of the yacht Milwaukee in the Canada cup races at Chicago last year and through the showing made by Tecumseh this month in the Seawanhaka cup trial races. In addition, the company has designed and built many 20-ft. scows that are owned by members of the Inland Lake Yachting Association. The fact that the Oshkosh firm defeated eastern and western builders at Bridgeport, Conn., gives a prospect for a

very large business next year. The good work of Tecumseh has already been the cause of several orders.

For some time past the company has been considering the advisability of building gasoline launches, there being a great demand in the Northwest.

THE RHODE ISLAND YACHT CLUB

PROVIDENCE, R. I., July 12. (Special Correspondence.)—When the schedule of the annual cup regatta of the Rhode Island Yacht Club was made public to-day the owners of launches were decidedly pleased to find that the race committee had fully provided for the holding of launch racing in connection with the affair. The races will be held on Saturday, July 26, at the close of the annual cruise of the club, which will end at Potter's Cove on the day following the regatta.

Launch racing was inaugurated at the club last season, and the result has been a great increase in the number of power boats now in the fleet. That part of the regatta program which is of interest to the owners of launches is as follows:

Third Division—Launches

Denoted by Large Blue Ball

Class 1—25 ft. w. l. and over—Ten min. after last class of 2d division, 1 black ball at gun fire; first prize, commodore's cup.

Class 2—18 ft. w. l. to 25 ft.—Two minutes later 2 black balls at gun fire; first prize, \$15 or cup; second prize, \$10 or cup.

Class 3—Under 18 ft.—Two minutes later 3 black balls at gun fire; first prize, \$10 or cup; second prize, \$5 or cup.

Sloops and cutters to allow yawls ¼ racing measurement.

Time allowance of launches will be based upon h. p. and w. l.—the larger boat allowing the smaller 3 seconds per mile for every foot or fraction of foot of w. l. length.

The greater-powered boat allowing the lesser-powered 5 seconds per mile for every h.p. or fraction of h.p.

Open launches will allow cabin launches 3 seconds per mile. This does not apply to trunk cabin launches.

All yachts entered will report to the judges' boat on the day of the race, to be measured, and any yacht starting unmeasured must report to the judges for instructions, immediately after crossing the finish line, or forfeit all claims to a prize.

No yacht will be measured after 12 M. until the finish of the race.

Courses

Starting from S. to N., passing between judges' boat and mark, located to eastward of same. Thence around Rumstick gas buoy; thence around Conimicut gas buoy; then around mark at east end of starting line; thence around same course again, finishing across starting line, leaving all marks and buoys on port side. Distance, 16 miles.

Above course for all boats over 21 ft. racing measurement. All smaller classes and launches once around, finishing across starting line. Distance, 8 miles.

THE YALE COACHING LAUNCH

The accompanying picture of the new coaching launch of Yale University, the "Eli," as she is affectionately called by the under-graduates, was taken on the occasion of the rowing races at New London, just before the victorious crew left Gale's Ferry after the great race with the Harvard crew. No trial of speed has yet taken place between her and the Harvard launch John Harvard, but she is evidently a fast boat. She was built by subscriptions on the part of friends of the Yale Navy, and cost \$12,000.

THE FISHING FLEET

The mackerel seiners, now on the Georges, report good catches this month, the auxiliary schooners making their usual good showing as compared with the sailing craft. Captain Sol Jacobs has been quite successful this season with his new full-powered steamer.

The Michigan Yacht & Power Co., of Detroit, Mich., has on the stocks a day launch for J. B. Ford, of Wyandotte, Mich. She is 65 ft. over all, 10 ft. wide and carries 30 h. p. gasoline motor. She will have a closed cabin, with galley and toilet.

Adrian Bordreau, of Middletown, is building an auxiliary knockabout for C. H. Friend, of Boston. The boat is 32 ft. long and 9 ft. 6 ins. broad. A 4-h.p. motor will be installed.



COACHING LAUNCH OF YALE NAVY

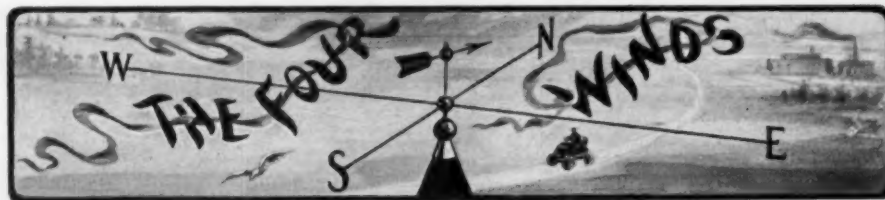
Another cruise by gasoline launch from New Haven to Florida is planned for next fall by Walter Bowen, who is now building a launch for this special purpose.

The Brunhilda, the new yacht of Rev. Karl Schwartz, was launched last week in the Erie Canal. She will be run on Onondaga Lake.

The American Yacht & Motor Co., of St. Louis, Mo., has increased its capital stock to \$60,000.

A number of power boats have been put into the Sachem's Head Yacht Club this season.

Sapphire, steam yacht, Al. Hayman, has been sold to John Pierce of New York.



THE LONG ISLAND CRUSADE

A Committee of Citizens Organizes in Brookhaven and Adopts Effective Measures for Suppressing Speeding Through Towns

A concerted crusade against furious driving of motor vehicles is being conducted by the towns on Long Island, among them being Freeport, Patchogue, Rockville Center, Oyster Bay, Mineola and Moriches.

The Town of Brookhaven Committee of Safety was organized in Patchogue on June 28 by a number of representative citizens for the purpose of suppressing the reckless driving over the highways of the township. The legal points were discussed and a motion was adopted requesting the sheriff to appoint members of the committee as special deputies for the enforcement of the laws. One of the first arrests resulting was that of Kirk LaShelle, the theatrical manager, of Chicago, who has a summer home at Bellport, and who paid a fine of \$10. The following week the committee offered rewards for evidences of violation, and arranged a system by which information of excessive driving can

not heed the signal of an officer, it was planned to drive a large furniture van across the road ahead of the speeding vehicles at a point some distance further up the road. Jericho turnpike, on the north side of Freeport, was patrolled in the same way, and any machine going faster than twenty miles was held up. Several other courses also have been surveyed for the same purpose. Notices were posted, offering \$50 reward, for information leading to the arrest and conviction of persons who violate the law.

Last Sunday this trap caught, with six other transgressors, among whom were several persons interested in the manufacture and sale of motor vehicles, Lillian Russell, the actress, and a party of four men and the French chauffeur. The party, which had been guests of Jesse Lewisshon, brother of the copper king and a wealthy resident of Lawrence, was on its way from Cedarhurst, where Miss Russell has a summer cottage, to Massapequa for dinner. As the vehicle and party passed over the patrolled quarter mile, one of the special officers waved a red bandana handkerchief and the furniture van was run across the road. The time, as caught by the watches, showed 1:40 for the quarter, or slightly more than 9 miles an hour. The party was released with the exception of the nervous little French chauffeur, who was held in \$100 bail, which was promptly furnished by Mr. Lewisshon. The total amount of fines collected in Freeport up to Monday last was \$165, with three cases still to be settled.

A meeting was held in the Seawanhaka Corinthian Yacht Club House on Center Island, Oyster Bay, on the night of July 11 for the purpose of organizing an association to suppress excessive speeding of motor vehicles. It was presided over by Senator W. W. Cocks, father of the Cocks bill which, with many amendments, was enacted last winter at Albany into the present law.

Effect of Crusade Evident

The same system of timing vehicles was used in Mineola and Moriches last Sunday, but the news of the movement had spread and the effect was evident in the arrest of only two violators in Mineola. One was a motor bicycle rider, who refused to give his name and was allowed to depart after paying a \$5 fine; the other was an automobile driver, who covered the quarter mile in 29 sec. and paid \$10 for it. The only offender in Moriches was a motorist whose machine was devoid of the required initials.

be telephoned from one town to another and the offender arrested.

A vigorous enforcement of the state law was begun in Freeport by direction of the District Attorney immediately following the Fourth of July, and on the 5th resulted in the arrest of seven motorists, five of whom paid fines of from \$5 to \$15, while the two others pleaded not guilty and were released on \$100 bail to appear the following Wednesday. To insure the conviction of alleged violators of the law, officers were stationed with stop-watches at the ends of a quarter-mile stretch on Merrick road, and had a system for signaling, by which the times of passing cars could be caught to the fraction of a second. To insure the stopping of machines if the drivers did

MANY ARRESTS IN BUFFALO

Stringent measures are being taken in Buffalo to suppress scorching. A number of bicycle police officers dressed in citizens' clothing, arrested six motorists on the night of July 11 and charged them with infraction of the State speed law and failure to display the required lights. They were bailed out by their friends. Among those arrested were George S. Metcalfe, accompanied by Judge J. H. Metcalfe, who were taken before Police Judge Murphy for not having their lamps lighted, and William J. Kernahan, who was driving a motor vehicle, in which were Norman E. Mack, committeeman of the Democratic National Committee, accompanied by Hon. Augustus F. Scheu and Mrs. Scheu.

George S. Metcalfe is quoted as saying: "After I got out I telegraphed to President Roosevelt, Governor Odell and a few other politicians. I want to get out of this as easily as possible, and I am using political influence. I suppose I will have to go down to Judge Murphy's court and answer to the charges. I took my arrest better than Mack did, anyhow."

Norman E. Mack was wroth, and said of the arrest of his driver: "The police have been trying to catch thieves and murderers and failed, and now they are trying to catch automobilists."

NEWS/NOTES FROM NEWPORT

NEWPORT, R. I., July 12. (Special Correspondence.)—The past week has been the gayest Newport has seen this season. There are many new machines here, both of foreign and domestic manufacture. One which has caused considerable notice is the 24-h.p. Robinson gasoline tonneau, owned by Alderman Honore Palmer, of Chicago, who abandoned his attempt to ride from Chicago to Newport at Cleveland, owing to the muddy and rough roads. He shipped his machine to Boston by rail and made the run from Boston to Newport with it in less than 4 hours.

W. E. Carter, of Philadelphia, while driving his vehicle past Miss Wells, who was in her electric, unfortunately collided with a horse and wagon. The animal broke his traces and ran down Bellevue Avenue nearly a mile before being captured. A number of bystanders, mostly cottagers, expressed their sympathy by offering the more frightened than injured driver a generous purse, which was promptly and gratefully accepted.

An electric vehicle standing in front of the Casino, with the "connecting plug" left in it, darted up on the sidewalk and was heading for the huge plate glass window of Gorham and Co.'s new store, when several men succeeded in checking it before any damage was done.

William K. Vanderbilt, Jr., is expected here about July 25. He will bring with him the new Cannstatt-Daimler-Mercedes racing machine which he used recently in the Paris-Vienna races.

Plans have already been laid by the active members of the National Automobile Racing Association to make this season's races more attractive than any ever held heretofore.

THIRD BAKER ACCIDENT VICTIM DIES

Patrick Kenny, one of the spectators injured in the accident at the Staten Island speed trials of the Automobile Club of America on May 31, died in the S. R. Smith Infirmary on Staten Island last Sunday. Kenny, who had both legs broken, was sixty years old, and his recovery was slow. Several days ago he contracted pneumonia and his death was directly due to that disease. Mr. Kenny is the third person injured by the Baker electric machine to die. He lived at Clifton, S. I., and was unmarried. The other persons, more or less seriously injured, have all recovered.

MINNEAPOLIS' FIRST ARREST

MINNEAPOLIS, July 12. (Special Correspondence.)—The first arrest of an automobilist for violating the speed ordinance in this city was made last Monday. Thomas H. Shevlin, the well-known lumberman and Minnesota member of the Republican National Committee, recently purchased a French machine. N. E. Brown, a local automobilist, was engaged to test the machine, and he started out on a trial around Lake Harriet. One of the park policemen witnessed the trial and immediately took the chauffeur in hand. He was arraigned in the police court the next morning, pleaded guilty and was fined \$10. The arrest was made under a general ordinance which limits the speed of all vehicles to ten miles within the city limits. Mr. Shevlin claims that he is in a quandary, as the machine was going at its lowest speed at the time.

AN IOWA AUTOMOBILE RACE

The first automobile race ever run in Iowa was the particular attraction at the Home Park horse race meet held in Waterloo, Ia., on June 10. The race was a 5-mile event, in which four machines were entered. All of the vehicles were of the gasoline type and were driven by local operators. The contest was won in 14:02 by a four-seated gasoline carriage manufactured in its entirety by the Waterloo Gasoline Engine Co. more than six years ago, since which time it has been in regular use. It was the first automobile ever seen on the streets of Waterloo. Second and third places were won by Oldsmobiles, the former by Fred Northey and the third by George Miller.

YOUNG TRAVELERS REACH SYRACUSE

SYRACUSE, N. Y., July 14. (Special Correspondence.)—James McConnell, of New York, accompanied by George Garrett, arrived here Friday in their Oldsmobile on

their way to Chicago from New York. McConnell is only 6 years old and his partner is about the same age. They started from New York two weeks ago, but have been on the road only four days in all. Owing to rainy weather they were content to ride but half a day at a time. The roads between New York and Syracuse are almost impassable, owing to the continued rains. McConnell is a lively youth and a bright one for his years. He is a student at Morristown, N. Y. The machine weighs 860 lbs., and is carrying 300 lbs. of baggage. It is a 4½-h.p. Oldsmobile.

The other tourists who struck town last week were Mr. and Mrs. J. B. Moss, of Worcester, Mass., and their little son. They are on their way from Worcester to Ithaca.

NEW YORK TO WHEELING TRIP

A run of more than 700 miles over the mountainous roads between New York and Wheeling, W. Va., was completed last Wednesday, after seven days' riding, by W. M. Vance, son of J. N. Vance, of Wheeling, in company with an expert operator connected with the American Darracq Automobile Co., in New York. The trip was made in a 1,600-lb. 12-h.p. Darracq, and the route passed through Atlantic City, Philadelphia, Baltimore and over the National Turnpike, through Washington and Cumberland to Wheeling. According to the operator, the roads were exceedingly rough, cut up by gullies several inches deep, deep in sand and full of rocks as large as one's head in places. The grades through the mountains were very steep, and altogether the trip was a very hard one, but was taken in easy stages. Storms prevented traveling on three of the eight days. The riders left New York at 10 A. M. on June 30, and arrived in Wheeling at 5:15 P. M. on July 3. The machine was purchased by Mr. Vance for long-distance tours.

MOTOR RACES AT TAUNTON

Automobile races are being promoted as a feature of the Taunton Fair, to be held at Taunton, Mass., on September 22 to 25, inclusive. Monday, the 22d, is to be given over partly to an automobile meet, with such racing for the various types of vehicles as it may be possible to arrange; and with entertainment for those attending. A committee consisting of Dr. Arthur R. Crandell, of Taunton; Dr. C. S. Holden, of Attleboro, and Frank Talbot, of Norton, has the affair in charge. Further information can be obtained from Dr. Crandell at 67 Spring St., Taunton, Mass.

Max Mosler, of Cincinnati, has just received his new French gasoline touring car. It is of the ordinary tonneau type and is the first imported machine owned by a Cincinnati.



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ORDERS FOR FUTURE DELIVERY

With every evidence on this side of the Atlantic, as well as abroad, that the demand for all classes of motor vehicles largely exceeds the capacity of the factories, there are still many prospective purchasers who delay placing their orders until just a little later. It may be interesting to such persons to know that while the foreign cars have sold all this season at premiums, round sums being paid in many cases for the mere privilege of having an order booked, a similar state of affairs prevails to a certain extent on this side. Premiums are offered to those lucky persons who have booked orders sufficiently far ahead to insure delivery this summer, and we are informed of one manufacturer who gives to each intending purchaser a number indicating the priority of his order for a carriage.

When a man is once fairly awake to the fact that he wants a motor vehicle there should be little difficulty in making a speedy choice and placing an order. There may be some trouble in deciding on the special type and make which will best suit his uses; but there is no longer any reason to delay because the market does not offer a wide range of choice of reasonably perfect cars. It is merely a question of price to-day in selecting from a very large number of types, styles and makes a motor vehicle that needs only careful and intelligent handling to do all that can be reasonably expected of it; more, in fact, than any horse is capable of. The man who defers his purchase because the motor car as a class is still in

the experimental instead of the practical stage, is only a degree less foolish than he who wants a car, but is waiting for the completion of some new battery, or the out-and-out discovery of a motor which will run an indefinite distance at an incredible speed and infinitesimal cost; or the still more credulous individual who is waiting for a touring tonneau at the price of a common rockaway plus that of a cheap gasoline engine.

While experiment and improvement must continue indefinitely, the motor vehicle of 1902 represents a substantial point of attainment—less absolute and final than such older inventions as the locomotive, the printing press and the sewing machine, but far beyond the doubtful and experimental stage in which the airship and the submarine boat still rest. Those who are ready to accept it for just what it is, to study it carefully and use it with reasonable skill, will find it as useful a servant as the older machines. The fact that continued improvements may be looked for in the dual lines of efficiency and economy should not be mistaken for a proof that the motor vehicle is conspicuously lacking in either essential. As to the price there are many good reasons why it will remain comparatively high according to the ordinary standard of the horse-drawn carriage and the noble beast between the shafts, at least for several years to come. At the same time, for those who can afford it, a certain return is promised, whether for business or pleasure.

The present outlook is for a continuation of existing conditions for at least the coming season; the increase of manufacturing facilities on both sides of the ocean is likely to be still behind the ever-growing demand for both pleasure and commercial vehicles. Those who intend to purchase at any time in the immediate future will find that the sooner an order is placed, the more satisfactory the ultimate result is likely to be.

MUNICIPAL MOTOR RACES

It might seem at first sight that the motorists of Long Island have much to be thankful for in the latest acts of various local authorities. These have selected stretches of good roads specially favorable for speeding, and courses have been accurately measured off and marked by the town surveyors, at no expense to motorists. Reliable timers, furnished with stop-watches, are posted constantly at each end of the course and also at intermediate points. The courses are free to all, residents and visitors alike; there is no entrance fee and no formal entry is required; all one has to do is to run up to the start, at either end, throw in his highest speed, and his time will be taken at the other end—all at the public expense. The arrangement is ideal in all ways but one—the matter of prizes. These, which must be provided by the winner, range from a cash prize of \$25 paid into the local treasury up to imprisonment for varying terms.

The first of these courses was formally

opened on July 5, with very satisfactory results to all but the contestants. No speed records were broken, but the times were not bad:—light carriage, $\frac{1}{8}$ mile, 29 sec.; prize not awarded, bail \$100; two other racers were each fined \$25. On the following day the eighth mile was made in $23\frac{1}{2}$ sec., and the quarter in 47 sec.; fine, \$15; an eighth in 21 sec. and a quarter in 51 sec., \$100 cash bail. The eighth in 25 sec. and the quarter in 1 min. 21 1-5 sec. resulted in a fine of \$10. The motor cyclists enjoyed the sport with the four-wheeled division, an eighth in $37\frac{1}{2}$ sec. and a quarter in 1 min. 40 sec. costing \$5.

It is to be regretted that such measures as these are made necessary, but on the whole they are far better in every way than the guesswork and its attendant injustice which have marked the enforcement of speed laws in England, and similar occurrences in this country. Presuming, as is apparently the case, that the measuring and timing are accurate, a motorist has only himself to blame if through ignorance or carelessness he violates the law. It must at least be some satisfaction to him to know certainly that he was traveling at a speed of fifteen miles—for instance—instead of the twenty miles claimed by the police against the legal eight to which he owns up himself. As long as strongly repressive measures are necessary, or are to continue in force even without due cause, it is far better that they shall be conducted on a basis of accurate fact rather than prejudiced and incompetent guesswork.

There need be no question whatever as to the responsibility for the failure of speed legislation in the city of Philadelphia and for any harm which may result. The differences between the motorists on the one hand and the city authorities on the other were in a fair way to be adjusted on a basis of common sense and business-like methods, certain compromises being made on each side. That the attempt failed is due simply and solely to the narrow-mindedness and obstinacy of a few members of the City Council. What will happen when the matter comes up again in October is beyond conjecture, but the immediate result is much to be regretted, not alone for the local, but the general effect.

This is the most intelligent attempt yet made for the solution of the speed problem in cities, and had it succeeded the example of Philadelphia would undoubtedly have been followed by other municipalities. The whole subject is one demanding an early and satisfactory solution; in some cities there are no speed laws where such are urgently needed, in others there are laws that are both foolish and unfair and fail to effect the designed end. One thing is certain, the motor vehicle is in the streets to stay—and in constantly increasing numbers—and efforts to expel or exclude it, or to restrict its reasonable use, are but a waste of time.



PREPARING FOR NEXT YEAR

The Winton Output for 1902 Is Sold Out and the Winton and Peerless Factories Are Working on Improvements—Other Cleveland News

CLEVELAND, July 12. (Special Correspondence.)—Cleveland manufacturers are making preparations for another season. Experiments are being made for improvements, and two concerns have stopped taking orders for this year's models.

The Winton Motor Carriage Co. has notified all agents and branch stores that the season's output has been sold and no more orders for present models can be accepted. This step gives some idea as to the demand for the big touring car in view of the fact that scarcely more than two months ago the Winton people were making deliveries within thirty days. As it is now, Winton agents in various parts of the country are writing the office that people are willing to pay a considerable bonus in order to secure early deliveries. Last week the owner of a touring car, after using the machine for more than 2,000 miles, sold it for \$2,500. In another case an almost new machine was sold for \$2,750, and in several cases a \$500 premium has been offered and refused. It appears that many wealthy people are now taking vacations and they feel that an automobile tour would be a novel way to spend a few weeks. But they delayed buying until they wanted to go and now they are willing to pay almost any price for a machine rather than have to give up their trips.

About fifty orders have already been sent in for 1903 models. The Winton company announces that there will be but few changes in the construction of the touring car for another year. The only changes will be small improvements of details.

Peerless Output Nearly Sold

The Peerless Mfg. Co. is still taking orders, but the output for the balance of this year will soon be sold. Lately the company has been enabled to increase the output to four machines per week, which is better than it has ever done before. Superintendent Mooers is working on a number of changes and improvements in the mechanism of the Peerless, but the general appearance and principles will remain the same. The changes will be announced shortly.

Krastin Company Ready for Business

The Krastin Automobile Mfg. Co., formed some time ago with \$200,000 capital stock, is starting to expand. A number of sample machines have been completed and thoroughly tested, and the company is now ready for business. At a re-

cent meeting of the directors it was decided to purchase about \$10,000 worth of new machinery. The present quarters will be enlarged for temporary use, and next spring, it is stated, a large new factory will be erected. The company will make four models, all of the single-cylinder gasoline type. The regular runabout for two persons is equipped with a 6-h.p. motor, a four-seated machine is equipped with an 18-h.p. motor, and a six-seated machine with a 24-h.p. motor. The Krastin machine shows a number of novel features. For instance, not only the steering but two speeds forward and one back are controlled from the steering wheel. Mr. Krastin is a skilled mechanic who has seen considerable experience in the automobile business in Germany.

Baker Racer to Be Tested

M. L. Goss, of the Baker Motor Vehicle Co., states that the Baker racing machine is being repaired and put in first class shape. It is probable that it will be tested for both speed and endurance of battery. It is claimed that, as every moving part runs on ball bearings, the machine should break all previous records for electric vehicles running on one charge. It is claimed that nearly 200 miles could be covered on one charge of the batteries. The machine is equipped with forty 2-volt cells and a 7-h.p. motor. It is quite possible that the test may be made on the Glenville track in connection with the automobile race meet in September.

Two New Vehicles Ready for Market

The Hoffman Automobile Mfg. Co. has about twenty-five of its steam vehicles practically completed and many more under way. The Hoffman is fitted with body of French type and is equipped with a powerful steam engine.

The Hansen Automobile Co. has a number of machines under way and will have at least thirty out and in use by August 1. The Hansen is finished in red with brass trimmings. A sample has just been shipped to Charles Hall, the Toledo agent, and other agents will be taken care of this week.

Shanks' Downtown Station

The daily papers have prematurely announced that Charles B. Shanks, backed by a number of prominent automobile enthusiasts, is to open a large automobile store, repair shop and storage station in the downtown section of the city. Mr. Shanks states that the matter has been under consideration for some time, but it is "still in the air," because of the inability to secure a suitable location. The move is in line with the statement made

a short time ago, to the effect that Mr. Shanks would be at the head of a Cleveland company which will handle the Buckmobile throughout the West. It develops that the new establishment will be primarily a Winton downtown store. The Buckmobile will be handled as a medium-priced machine, as will also the product of the Cleveland Automobile Co., A. L. Moore's new company. It is the aim to open a large store with a floor space of something like 15,000 sq. ft. The move will not affect Mr. Shanks' connection with the Winton Motor Carriage Co.

Standard Welding Co. Enlarging

The Standard Welding Co. is commencing work on an addition to its plant. The new building will be 130x60 ft. It will be used as machine shop and storage warehouse. The company will install considerable new machinery; notably what is claimed to be the largest welding machine in the country. Several new tube cutting machines and draw benches will also be installed, increasing the facilities for producing electrically welded tubing fully 50 per cent.

The Dangler Stove and Mfg. Co., which is the parent concern of the Kelly Handle Bar Co., is putting up an addition. It will be utilized largely in the production of the Kelly line of bicycle handle bars, automobile generators and burners.

COMPOSITE CHICAGO STORE

The New Branch Store of the Milwaukee Automobile Co. is Now Occupied by Knox Branch, A. C. Banker and J. H. Dousman

CHICAGO, Ill., July 12. (Bureau Correspondence.)—The recent failure of the Milwaukee Automobile Co. of course brought to an end the brief career of the Chicago branch in the new automobile row at Michigan Ave. and Fourteenth St. The closing of this branch, however, was quickly followed by the re-leasing of the store as an automobile salesroom and it is now the headquarters of three distinct agencies.

J. H. Dousman, formerly of the Milwaukee company, acquired the lease of the store and has taken the sales agency for the products of the B. and P. Co., of Milwaukee. His line includes several patterns of steam and gasoline automobile and marine motors and the new Ideal gasoline car. This is a 5-h.p., single-cylinder machine of simple and substantial construction and built for rough service. Mr. Dousman also has on hand a couple of Milwaukee steam carriages which with others he agreed to sell after his settlement of affairs as custodian for the receiver of the Milwaukee company had been concluded.

Knox Company Sub-Leases

The Knox Automobile Co., of Springfield, Mass., has sub-leased a portion of the room for its Chicago branch. C. S. Mason is in charge of the Knox interests, having about a week ago succeeded H. M.

Davis, who opened the branch here this spring at 366 Wabash Ave., and who has been called to New York to assist in the handling of Knox affairs in the metropolis. More than a score of the Knox carriages have been sold by the Chicago branch this spring and the chief hindrance to further rapid sales is the inability to make quick deliveries, orders having been taken for all the machines that can be delivered within the next month.

The third occupant of the store is A. C. Banker, who expects to make this room his retail headquarters on account of the lack of space at his two storage and repair stations, and their inferior location for selling purposes. The Banker line of agencies now includes the Darracq, Haynes-Apperson, Peerless, Gasmobile and Spaulding.

The repair shop in the rear of the store has been leased to C. S. Stokes, who has equipped it for general automobile repairing.

Parts and Tire People Move

Brandenburg Bros. and Alliger and the Clark Tire Co., who until recently occupied jointly a storeroom at 93 Lake St., have moved into larger quarters at 85 Lake St. This move was contemplated earlier in the season but was postponed because the new store was not ready for occupancy.

THE CENTAUR MOTOR VEHICLE CO.

At a recent meeting of the stockholders of the Centaur Motor Vehicle Co., of Buffalo, N. Y., the following officers and directors were elected: President, Lewis Emery, Jr., of Bradford, Pa.; vice president, H. C. Wilcox, of Bradford, Pa.; secretary and treasurer, J. B. Eccleston, of Buffalo; Delevan Emery, of Bradford, and M. F. Barrett, of Buffalo.

Senator Emery, president of the company, is known throughout the business world as the independent operator of oil refineries, pipe lines, ocean tank lines and distributing stations in almost every country of the world. He and his associates are progressive men, and, being heavy stockholders in the Centaur company, have a natural pride in assisting, financially, the development of the new company under the management of Messrs. Wilcox and Eccleston.

The company has made a long-time lease of the five-story brick factory building at 59 Franklin St., and is now rapidly installing modern machinery for the manufacture of the Centaur electric and gasoline vehicles. Plans are already being advanced for the 1903 season, when the company hopes to be in a position to supply these types of vehicles promptly.

J. C. Wood, of Brooklyn, denies that he has interested capital to the extent of \$40,000 for a half interest in an automobile, of which he is the inventor, as reported.

Walter H. Southwick has been made assignee for the Essex Automobile Co., of Lynn, Mass.

AGENCY FIGHT IN TOLEDO

Oldsmobile Factory Takes a Hand and Will Try to Stop Supply of Cut-Price Machines—Shipping Toledo Gasoline Cars

TOLEDO, O., July 12. (Special Correspondence.)—An acute stage has been reached in the commercial fight between the Toledo Motor Carriage Co. and the Oldsmobile Co., of Cleveland, which opened a branch store here last spring. The former concern took the agency for the Oldsmobile vehicles last year and, it is claimed, renewed the contract and ordered a certain number of machines for this year, the exclusive agency was given to the Oldsmobile Co. When the latter concern opened its local store and began advertising the runabouts for sale, the Toledo Motor Carriage Co. secured an Oldsmobile from some source and offered it at a lower price. A fortnight ago it secured two more and announced that it had a carload coming, and early this week six more of the popular little machines arrived, which Manager Hall offered at \$625 each. Two of them have already been sold.

Source of Supply Found

Meanwhile the Oldsmobile Co. has disposed of twenty-two machines since opening its store, sixteen of which were sold to Toledo purchasers. Up to this week Manager Levy, of the Oldsmobile Co., was unable to learn where the Toledo Motor Carriage Co. secured its supply, but, by tracing up the serial numbers on the last lot it has been discovered that they had been sold by the Olds Motor Works to J. J. Mandery, of Rochester, N. Y. The factory in Detroit was at once informed, and President Smith forthwith appeared on the scene and inserted half-page advertisements in the local papers announcing that the Oldsmobile Co. was the only authorized agent for the Oldsmobile in Toledo, and stating that the makers declined to assume any responsibility or guarantee on machines sold by other agents. The numbers of several machines that the makers will not guarantee are also given. President Smith says, according to Manager Levy, that the factory will decline to recognize any machine that goes to the Toledo Motor Carriage Co. for repairs, etc., and that repairs cannot be had for any machine sold by it. It is also said, on good authority that the sale of the Oldsmobile to the Rochester firm will be stopped and that this source of supply for Toledo will therefore be cut off.

Manager Hall says this makes no difference, however, as he can get vehicles from four other firms that are ready to supply him.

In addition to the two Oldsmobiles, the Toledo Motor Carriage Co. reports the sales of one Winton touring car, one Pierce motorette and two Toledo steam

carriages, making six sales for the past week.

The Oldsmobile Co. is also having a very good trade. Manager Levy had intended resigning this month to accept the position of manager of the sales department of the new company in Cleveland that will market the gasoline machine which is being built by Otto Konigslow, but since the trouble here has grown to such proportions he has decided to remain and fight it out.

May Cease Production of Steamers

Four of the new gasoline touring cars have been completed and shipped by the International Motor Car Co. The new machine is called the Toledo, and is a handsome car, being finished in maroon, with brass trimmings and handsomely upholstered. It has a 16-h.p. engine, and is 9½ ft. long. Its construction follows French design. Although the company is busy finishing up a lot of Toledo steam carriages also, it is not believed, from present indications, that the sale of this style will be pushed in the future, and it is possible that the company may even discontinue its manufacture, so as to devote more time and effort to the production of the new gasoline cars.

The shipping of the first gasoline car was an event in the history of the factory, and from President A. E. Schaaf down to the office boy every one about the works was interested in it as it marks a new era in the company's business. Among those who were interested in this shipment was J. W. Jenkinson, a dealer of Cape Town, South Africa, who came all the way from there to see this new machine and arrange for handling it in South Africa. Mr. Jenkinson has sold half a dozen of the company's steam vehicles to British army officers. But they are now demanding a gasoline car.

FOR CHEAP FREIGHT RATES

A French union, known as the Mutual Transport Co., has been organized by the presidents of the Seine syndicates for the purpose of regulating the relations between the manufacturers and transportation companies. The new organization purposes to give its members the cheapest transportation by rail and water. Twenty-five chambers of commerce, more than 100 syndicates, and 2,000 merchants and manufacturers have joined the association, which held its first congress on March 21 and 22. This meeting was presided over by the Minister of Public Works, assisted by the Minister of Commerce. Railway officials and 600 representatives of commerce and manufacture were present. The director of the Orleans Co. declared that the railways would take into favorable consideration the requests of the union. The manufacturers of Roubaix have appointed a committee to study the question of transportation in its relation to the interests of their locality.

WASHINGTON LICENSE LAWS

Congressional Measure Imposes Taxes on Private and Public Vehicles and on Stations—Detective Seeking Long Distance Car

WASHINGTON, D. C., July 12. (Special Correspondence.)—One of the closing acts of Congress was the enactment of a bill making appropriations for the District of Columbia for the ensuing fiscal year. Included in the measure are the new taxation and license laws, which, among other things, provide that dealers in general merchandise of every description shall pay to the collector of taxes of the District $1\frac{1}{2}$ per cent. on the average stock in trade for the preceding year, and that proprietors or owners of establishments where motor vehicles are kept for hire or are stored for others, shall pay a license tax of \$25 per annum for ten vehicles or less, and \$2 additional for each additional vehicle. Owners of motor vehicles are taxed \$9 per annum for each vehicle. Licenses will date from July 1 in each year. The driver of every licensed passenger vehicle, while transacting business as such driver, must wear conspicuously upon his breast a badge numbered to correspond with the license of his vehicle. The badge will be furnished by the District and a tax of 50 cents will be charged therefor in addition to the amount of the vehicle license. Licenses for the storage of vehicles will date from November 1 in each year.

On the Trail of a Motorist

A detective connected with the local police force is having a merry chase through the country adjacent to Washington in an endeavor to locate Lloyd Turner, a young man who has in his possession a U. S. Long Distance car which he purchased from the local branch of the company. The detective is armed with a warrant alleging false pretenses. It appears that Turner had been negotiating with the company for one of its vehicles and satisfactory terms having been arranged, he purchased machine No. 116, in payment for which he tendered a check for \$1,100, which was accepted. When the check was presented at the bank for payment it was declared worthless, there being no funds deposited to Turner's credit in that bank. Manager Leech then swore out a warrant for Turner's arrest, and the detective is now endeavoring to locate him.

TRYING A STEAM STREET SWEEPER

A ten-days' trial of the Collins steam street sweeper was begun on July 8 in Hartford, Conn., where the machine was built. It is being used experimentally on High, Asylum and Trumbull streets in the afternoons, and on Main and State streets in the evenings. The machine is propelled and the revolving broom corn brush is driven by power furnished by the boiler and steam engine. A pan-shaped receptacle receives the dirt as it is swept up and deposits it at intervals for carts

to gather up. On the first day's trial the sweeper swept a clean path and was rapid in operation. The exhaust steam is sent out through the brush, dampening it so as to prevent the flying of dry dust through the atmosphere. This machine is a Hartford invention, and is to be manufactured for the market in Hartford by the Hartford Motor Machine Co. It is claimed that it is more economical in operation than horse sweepers, and it can sweep clean at the rate of five miles an hour when required.

IMPORTS AND EXPORTS

Official figures compiled at the New York Custom House show that during the fiscal year ended June 30, 218 motor vehicles, of an aggregate value of \$506,542, were imported. The 45 per cent. ad valorem duty on these amounted to \$227,943. The imports continue to show a steady increase. Prior to June 30, 1901, automobiles were classified as machinery, so there are no comparative figures for the previous fiscal year. Two or three years ago, however, there was a scant two dozen foreign machines in use in Greater New York.

While the imports are increasing at a rapid ratio, the exports are also increasing and are larger than the imports. The total exports of vehicles and parts for the eleven months ending with May were \$599,927. No record is left of the number of machines shipped.

The exports of motor vehicles and parts of the same from the port of New York for the week ending July 12 were as follows: Glasgow, 2 pkgs. motor vehicles, \$1,520; Hamburg, 1 pkg. motor cycles, \$75; Liverpool, 2 pkgs. motor vehicles, \$4,455; London, 15 pkgs. motor vehicles, \$7,430; New Zealand, 3 pkgs. motor vehicles, \$350; Southampton, 1 pkg. motor vehicle parts, \$152.

The exports of automobiles from the port of New York for the week ended July 5 were as follows: British Possessions in Africa, 1 pkg. motor vehicles, \$1,000; Copenhagen, 1 pkg. motor vehicles, \$750; Havre, 89 pkgs. motor vehicle parts, \$900; Hamburg, 2 pkgs. vehicles, \$160; London, 12 pkgs. motor vehicles, \$9,360; Uruguay, 2 pkgs. motor vehicles, \$779; Vienna, 1 pkg. motor vehicle parts, \$100.

Exports of automobiles and parts from the port of New York for the week ended June 28 were as follows: Brussels, 4 pkgs. motor vehicle parts, \$525; Havre, 1 pkg. motor vehicle parts, \$10,000.

Exports of automobiles from the port of New York for the week ended June 21 are as follows: Antwerp, 2 pkgs. motor vehicle parts, \$100; Copenhagen, 5 pkgs. motor vehicles, \$2,785; Havre, 2 pkgs. motor vehicles and parts, \$4,000; London, 8 pkgs. motor vehicles and parts, \$4,585; Liverpool, 2 pkgs. motor vehicles, \$2,100; Rotterdam, 4 pkgs. motor vehicle supplies, \$134; St. Petersburg, 1 pkg. motor vehicle parts, \$59.

NEW ENTERPRISES

Articles of incorporation were filed in the County Clerk's office in Camden, N. J., on June 23, by the Mobile Transportation Co. of New Jersey, capital \$100,000. The incorporators are W. Stuart Dilks and F. Sherwin, of Mullica Hill; John A. Crawford, of New Brunswick; Irving Turner and John Harris, of Camden. The object is to operate an automobile stage line to run between Wenonah, Mullica Hill, Clayton and Woodbury. The line is expected to be in operation by the second week in July, and the machines will have a capacity for about 20 passengers.

The Diamond Automobile Co. was organized in Dover, Del., on June 23, with a capital of \$125,000. The officers are: President, James Bailey; secretary and treasurer, Joseph H. Bailey, Jr. Martin Mainogiu, of Springfield, O., will be in charge of the plant. The company proposes to build automobiles which will be of simple construction and few parts, and which will sell at moderate prices. Repairing will be done, automobiles stored, cared for and delivered.

Representatives of Charles M. Schwab, James Brady, of Albany, and Max Fleischman were in Newton, N. J., during the week of June 16, it is reported, looking for a site on which to erect a factory for the manufacture of a new automobile, of which C. J. Dorticus, of New York, is the inventor and patentee. The plant may be located at the old Woodlawn race track in Newton.

The Consolidated Rapid Transit Co. has been organized in Guthrie, Okla., to build, equip, operate and maintain a line of automobiles in Guthrie and other cities in the Territory for the purpose of carrying passengers and freight. The capital stock of \$100,000 has all been subscribed. The incorporators are Brown Cornelison, M. Vandervoort and John D. DeBois, all of Guthrie.

The National Automobile Co., with headquarters at Oshkosh, Wis., is about to erect a large manufacturing plant there, and has elected Dr. H. H. Muggley, of Rapid City, S. Dak., to superintend the construction of the plant and the subsequent manufacturing operations. Dr. Muggley recently resigned as general manager of the National Smelting Co.'s Rapid City works.

The Tonawanda Motor Vehicle Co. was recently organized in Tonawanda, Pa., for the purpose of manufacturing electric vehicles under designs and patents owned by Chas. A. Lindstrom, of Buffalo and Chicago. A brick factory building is being remodeled for the new concern, which has a capital stock of \$25,000, all paid in.

Russell Frisbie, a repairman of Cromwell, Conn., has recently brought out a new automobile of his own manufacture, and it is

expected that he will be able to interest Middletown capital, and start a company in that place for the manufacture of his machine, which has attracted favorable comment.

The Halsey Automobile Co., capitalized at \$30,000, filed articles of incorporation in St. Louis, Mo., on May 26 with the recorder of deeds. The stock consists of 300 shares, valued at \$100 each. Oscar L. Halsey holds 170 shares, Augustus C. Halsey 129 and Edward J. Snowden 1 share.

J. Overton Payne, a stock broker, of New York City, recently visited Racine, Wis., with a view to establishing a Western branch factory for the manufacture of automobiles. Mr. Payne is quoted as saying that he expects to invest about \$300,000 in the project.

The Automobile Amusement Co., with a capital stock of \$500,000, was formed in Kittery, Me., recently, to manufacture and deal in automobiles and other machines. The officers are: President, Horace Mitchell, Kittery; treasurer, A. M. Meloon, New Castle, N. H.

The Victor Engine & Motor Carriage Co. has been formed in San Francisco, with a capital stock of \$100,000, by George E. Hoyt, Charles N. Champion, Charles F. Thompson, Adolph Lorschach and Walter Rosie.

L. C. Taylor, of New Concord, Ohio, is going into the manufacture of gasoline engines for automobiles and launches. It is reported that he will employ from 100 to 150 men in this work in the near future.

The Four Wheel Drive Automobile Co. has been incorporated in Arizona, with a capital stock of \$500,000. J. B. Schwab, P. J. A. Schnoor and P. Miller, Chicago, Ill., are the organizers.

The Spencer Auto Vehicle Co. has been incorporated in Maine. The capital stock is \$500,000, and the organizers are Seth L. Larrabee, Portland, and W. F. Rogers, New York City.

The Bay State Motor Vehicle & Transportation Co. has organized at Worcester, Mass. It is understood that the company is formed for the purpose of renting automobiles.

The Appeal Mfg. & Jobbing Co. was recently incorporated at Los Angeles, Cal., for the purpose of manufacturing bicycles, automobiles, engines and gasoline motors.

From New Bedford, Mass., comes the report that gasoline automobiles are to be made in that place by a company which has been recently formed.

The Riley Engine Co., Paterson, N. J., has been incorporated for the purpose of making motor vehicles and engines.

TRADE BREVITIES

A representative of a large business house in Johannesburg, South Africa, who has been buying agricultural machinery, electric light wire and other articles of American manufacture, visited the plant of the Century Motor Vehicle Co., in Syracuse, last week and ordered a steam surrey and several steam runabouts for immediate shipment. He said that there is a surprising demand for steam vehicles in South Africa, these being the most popular of the three types of automobiles because the people understand steam better than the storage battery and the gasoline explosion motor. The Century company is also figuring with several prominent business firms of Syracuse for furnishing them with its new electric delivery wagons. A new gasoline touring car will be out next week.

The Knox Automobile Co. has moved into the large addition to its Springfield, Mass., plant, the work on which has just been completed. The addition nearly doubles the company's capacity, the new building having about 70 per cent. as much floor space as the old one. A new foundry has been installed in the building. C. S. Mason has been sent from the factory to assume charge of the company's Chicago station, the manager of which, H. M. Mason, has gone to New York to take charge of the depot there.

One of the new model automobiles recently completed by the J. Stevens Arms & Tool Co. was tested on June 14 and showed remarkable speed. A run was made to Springfield from the Chicopee Falls factory in quick time over the rough and hilly roads. The ease with which it started and was controlled was a pleasing feature. A number of other machines are coming through the plant and are being tested as fast as they are finished.

Stuart Darrow, of Oswego, N. Y., has completed a gasoline vehicle after the Darracq pattern, which weighs 590 lbs., and can attain to a speed of 20 miles. The machine was built entirely by Mr. Darrow at the electrical factory of Ward Decker and Edmund A. Hinckley. Messrs. Decker & Hinckley are building two other motor vehicles in their works.

Wm. M. Turner, representing Wanamaker's New York automobile department in Newport for the season, expects to open a handsome showroom at Narragansett Pier, where a full line of Baker electric machines will be kept in stock for immediate delivery.

Gray & Davis, manufacturers of automobile and other lamps, in Amesbury, Mass., are breaking ground on Carriage Hill for the erection of a brick factory, made necessary by the increasing volume of their business.

The Rutenber Mfg. Co., which makes the Rutenber vertical motors, has erected a machine shop in Logansport, Ind., near the foundry of the Logansport Foundry Co., and installed \$10,000 worth of special machinery. It will remove its plant from Chicago and has arranged with the Logansport Foundry Co. for the manufacture of complete vehicles.

George Collister, of the Cleveland Automobile & Supply Co. will spend his summer vacation at Stony Creek, with his boon companion, Dr. J. Post, of the Veeder Manufacturing Co. Mr. Collister says "Dave" has a fast steam launch and a faster gasoline touring car, so he expects to be on the go most of the time.

The Pittsburg Automobile Co. held a formal opening on June 28 of the new storage station, which it has established in a commodious building erected for it at Centre Ave. and Beatty St., Pittsburg, and completely equipped for the storage of vehicles and the accommodation of automobilists.

The Johnson Electric Co., of Milwaukee, which is extending its interests into the manufacture of motor vehicles, has purchased from the Wisconsin Marine & Fire Insurance Co. the property at the corner of Michigan and Jefferson Sts. for \$24,000, with a view to building additional factory room.

T. W. Goodridge, secretary of the Electric Vehicle Co., of Hartford, has left that concern and gone with the Studebaker Bros. of South Bend, Ind., to take charge of their automobile department, recently established. He had been with the former concern since it was started, six years ago.

The International Automobile & Vehicle Tire Co. is preparing to remove from Upper Newton Falls, Mass., to Milltown, N. J., where it is installing machinery in the factory of the Meyer Rubber Co., which it has purchased. The removal is expected to be completed by August 1.

The Lewis Automobile Co., of 488 Hancock St., Brooklyn, N. Y., has just completed a two-story brick building, 85 x 20 ft., especially designed and built for storing and repairing all kinds of motor vehicles and fully equipped in every way for first-class service.

The Colonial Carriage Co., of Circleville, O., is building a sample electric vehicle to the order of a New York gentleman. The machine has proven very satisfactory, and it is probable that the company will engage permanently in the business.

The Robinson Automobile & Vehicle Co., of Hyde Park, Mass., has completed a third-mile track on land recently purchased adjoining its factory for testing its machines.

A VETERAN MOTORIST

Orange, Mass., the home of the Grout carriage, boasts a practical motorist in the person of James H. Clark, who, though in his eighty-third year, regularly runs his steam carriage alone. He uses the machine daily for ordinary runs, and only



recently made the run from Orange to Fitchburg and return, 75 miles, in 13 hours. Though all his life a horseman, he has taken kindly to the new vehicle. He is planning for this summer a run to his old home in Rutland, Vt. Mr. Clark uses a regular Grout Stanhope, the only special fitting being a low-water alarm, made necessary by his failing eyesight. He is considered a very able and careful driver.

A NEW ELECTRIC BROUGHAM

The Electric Vehicle Co., of Hartford, Conn., has ready for the market two new styles of brougham, a carriage which it has built in large numbers during the past few years. The new style embodies the experience thus gained, and is a distinct advance over the older vehicles. The Columbia Mark XXXV., as it is called, is built with both straight and extension front, the former seating two passengers

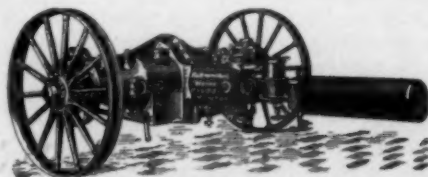


THE MARK XXXV ELECTRIC BROUGHAM

and the latter four. The forward seat of the extension front carriage is movable, turning up out of the way and leaving a clear space. The running gear is of the flexible-reach type, with plain wheel bearings and wood wheels; 36 in. diameter in front and 42 in. in the rear, all with 4 in. solid tires. The parallelogram of contact is 80¼ x 60 in. There are two motors, of the S. & H. type, each of 4 b.h.p.; the speeds are 4, 7¾, 11 and 14½ miles forward and 4 and 11 miles back; and the radius is 40 miles. The handsome body is shown in the illustration, it will be noticed that wheel-steering is used. The interior is fitted with electric light in dome, driver's signal, card case, memorandum pad and mirror.

A DIRECT REAR AXLE MOTOR

The motor here illustrated was exhibited at the recent motor vehicle exhibition at Berlin, being the invention of Prof. Klingenberg, made by the Motor Fabrik Pasig-Munich. As described by Consul Mason, of Berlin, the motor is supported by the rear axle, to which it is geared di-



rectly, and it is inclosed in a dust-proof case. The axle is in two sections, connected at the center by a complicated device, the details of which are shown in the foregoing cut, and which provide for differential motion as between the two hinder wheels and couplings for different rates of speed. The idea seems to have been adapted from a tricycle of French origin, and its application to a motor carriage is ingenious and

interesting. The motor works directly on the driving shaft with the maximum economy of power; the working parts are not only securely inclosed and protected from mud and dust, but work in a bath of oil, which secures perfect lubrication. On the other hand, it has the ominous disadvantage that the motor, with all the complicated and delicate mechanism of transmis-



sion and differential movement, rests on the axle without springs, and would therefore, in the opinion of critics, be soon shaken out of service by the vibration of travel over a rough road. For exclusively city use, over good pavements, this method of construction—which eliminates chains, cogs and belts—might prove effective, but for open-country touring its durability is thought to be questionable.

VARIABLE CUT-OFF

The merits and demerits of variable cut-off as a means of improving the economy of steam carriages have been actively discussed, but most users take very little real interest in the subject, for the reason, probably, that from one cause or another the economies theoretically possible do not materialize in practice. Breaking the chain, knocking in the engine, and other irregular occurrences, are reported to follow attempts at "linking up"; and most people are satisfied to avoid experimenting. It has been suggested that one reason for this may be found in careless adjustment of the rods connecting the hand reverse lever with the valve gear, resulting in a shorter cut-off in one end of the cylinder than in the other. Those interested in improving the economy of their engines would do well to take nothing for granted on this point.

The proposed automobile stage line from Lewistown to Anaconda, Mont., has been abandoned, for the present at least, by the Fort Benton promoters, as no automobile company would contract to furnish vehicles that would make regular trips over the rough and steep grades in that country.

The Central Trades Council has taken up the cause of the striking street car employees of Brazil, Ind., on the interurban and Terre Haute lines, and will establish a line of automobiles between Brazil and Terre Haute, the fare to be just half that charged by the street car company.

The Swiss War Material Directorate has had a sum of 20,000 francs granted it for the purchase of a motor vehicle as the result of the satisfactory trials during the maneuvers.

FOREIGN TOPICS

PARIS-VIENNA

German and Austrian Notes of the Great Race—Entries of German Cars—Routes Through Bavaria and Austria

BERLIN, June 24. (Special Correspondence.)—Long before these lines appear in print, the huge struggle of the year will be a thing of the past, and to-day, on the eve of the battle, great expectations are rife in the breast of every participant who knows not what the morrow will bring forth. The tourist section is already on the way, and judging by despatches to hand it does not seem as if this division will enjoy the same immunity from accidents as in the Paris-Berlin event, which, in spite of all the alarmist paragraphs published by yellow journals, was remarkable for the small number of mishaps. Taking up the thread where it was dropped in the last report on matters in German-speaking countries, it must be remarked that the whole of the Swiss route—Belfort to Bregenz—has been neutralized, the ride leading via Delle, Delmont, Basle, Zurich, Winterthur and St. Gall to Bregenz. Munich is in the blues, for the Austrian A. C., unable to postpone any longer the definite fixing of the route, determined to remain true to the Arlberg line and leave Munich in the cold. The Bavarian A. C., which had been living in the hopes of a reconsideration of the government refusal, actually had the Lindau-Salzburg route in readiness, should the welcome news of the alteration of the course arrive. There is much indignation in industrial circles at the attitude of the authorities.

The German Entries

The Berlin firm of Sorge & Sabeck are starting a two-cycliuder 18 h.p. Buchet motor in the voiturettes of less than 400 kg. division. The Eisenach factory has entered two vehicles, whilst an alteration has taken place in the Duerkopp entries, also made in Austria. The firm had entered two light cars to whom were given respectively Nos. 78 and 92, but it was ascertained that they would not be in readiness for the event, so the firm proposed to run two heavies in their place. The Austrian officials were agreeable, but not so the A. C. F., which regarded this as a new entry and demanded renewed payment of the fees, 1,600 francs and entered the two *remplacants* far down on the lists, leaving the two originally destined cars the favorable starting numbers of 78 and 92. The German firm is naturally not specially delighted at this.

Jacob Dietrich, the motor-cyclist, has put down his name for the race. Prince Aren-

berg has given the promoters a challenge cup for alcohol cars, which is so annually defended.

The Austrian Roads

The Austrian A. C. has had plenty of trouble with the roads in its dominion, as the Arlberg was covered with snow nearly six feet deep and no less than 200 workmen were occupied in cutting a passage through this natural barrier. George Prade, of the "Auto-Vélo," who in company with Fournier, Gabriel, Lyonais and a chauffeur, undertook a reconnoitering tour to Vienna in Fournier's Mors car shortly before the race-week arrived complained greatly of the inclemencies of the weather on their trip. It had rained when they started in Paris and it rained the whole length of the route. The roads were principally bad, but those stretches which were not miserably poor were remarkably good. On questioning Fournier as to whether he thought this year's race would be beset with greater difficulties than the Paris-Berlin event, he answered with much emphasis that there would be a vast difference; he compared Paris-Berlin to the Longchamps race-track for ordinary flat racing and Paris-Vienna to the Auteuil steeplechase track. The return to Paris was made by train. August Lehr and W. Struck will start in the racing division in a newly-acquired 20-h.p. Benz car. The Continental Caoutchouc and Guttapercha Co., Hanover, has presented the committee with no less than thirty-five prizes, with a total value of 44,000 francs, to be distributed to cars fitted up with their tires. The Daimler Co., too, has given a handsome prize, and the Austrian Minister of War has placed the military telegraph at the service of the Austrian A. C. for the days of the race itself.

One Fatal Accident

The first wires to hand tell of an accident in the touring division, which unluckily ended fatally. Car 23 (Mercedes) steered by Baron Branken had left Berne on the way to Thun, when they came on a trap, the horse of which shied on the signal being sounded. The driver jumped down and went to the horse's head, and just as the car was passing on the left, another occupant of the trap jumped out, but instead of on the right, on the left side, in the very moment the motor was shooting by. He was flung down and the back wheel passed over his head. The Baron braked so quickly that the car was overturned, but all to no use, as the unfortunate man was drawn from under the car in a dying state and soon afterwards succumbed to his injuries. The Baron,

who sprained his ankle, went to a hotel but later on continued his tour. The police declare him blameless for the catastrophe.

Still Another Use

To what base uses an innocent motor may be put has been fully revealed on the arrest of a member of the German aristocracy, Dr. Ernst von Wedelstadt, who carried on a very lucrative mint of his own and on his lengthy automobile rides exchanged his own handiwork for the authorized coinage of the realm. Dr. von Wedelstadt was an assistant at the Hildesheim agricultural experimental station and an enthusiastic automobilist, who had to endure much chaffing on account of his craze for the speedy vehicle. From the information gathered there was, however, method in his madness.

The Mid-European Motor Car Society is busy arranging the route for its proposed tour from Berlin to Hamburg and back, 750 kilometers, in the first ten days of July. The principal object of the tour is a purely technical one, to ascertain the time needed by the different vehicles for a certain distance with special regard to the power of the motor and the number of persons conveyed by the vehicle.

A new bill is being prepared in army headquarters, which, if passed, will be of great value for automobilism, as it will officially recognize it as an important factor of modern warfare. It is proposed that in case of war, all motor vehicles in the German Empire should, if required, be for the time being placed at the disposal of the War Office for the rapid conveyance of troops to the front.

Dr. Lehweß' huge car *Passe-Partout* is in Germany at present and its arrival hourly expected in Berlin on its tour around the world. Max Cudell, of Aix-la-Chapelle, who was given out as dead a few weeks ago, was one of the lively inmates of the car. Herr Cudell, who is naturally enraged at the canard, is busy tracing the report back to its originators, as he declares that some person or persons unknown persevere in starting the rumor at stated intervals. He has offered a reward of 300 marks for the discovery of the authors of the canard.

GERMAN DUTIES ON PETROLEUM

Consul J. J. Langer sends the following from Solingen, under date of June 6, 1902:

The chambers of commerce at Nuremberg and at Solingen have petitioned the federal council to place mineral oil used for motor power on the free list of importations. In the Solingen cutlery industry, home work is still a prominent factor. Among these people and the middle class of manufacturers, the use of motors has greatly increased in the last few years, and the entry of mineral oil free of duty would be of the greatest benefit for them, especially in view of the high price of coal at this time.



PLANNING WESTERN MEETS

Cleveland Races Are Expected to Be Run About September 17 and Will Be Followed by a Two-Day Meet at Detroit

CLEVELAND, July 14. (Special Correspondence.)—The racing committee of the Cleveland Automobile Club is making plans for a grand meet. The date has not been fully decided upon, but it will be about September 17. George Collister, of the committee, is at present on a vacation, and as soon as he returns, the exact date and program will be announced. After the one-day meeting here, the contestants will ship their machines to Detroit, where racing will be held on the Friday and Saturday following.

In addition to ordinary speed events, there will be obstacle races and probably one or two motor bicycle events. A pursuit race will be on the program, one machine starting on the wire and the other at the half-mile post, the race to continue until one of the machines has overtaken and passed the other.

A Technical Case for the Court

The first trial of a person arrested for exceeding the automobile speed limit will come off next Friday, and it is probable that the judge will have an opportunity of learning something about the construction of automobiles before he decides the case. The offender is Superintendent Mooers, of the Peerless Mfg. Co., who was arrested this week on a warrant sworn out several days ago by E. Shreiver Reese, president of the local automobile club. The latter claims the offender was speeding at about 35 miles an hour through the business section of the city. Mr. Mooers claims the excessive speed resulted from a peculiar accident. A small lock-nut dropped off from the lever attached to the sparking device, he said, and the jar of the pavement caused the sparkers to drop forward at the very highest speed. Mr. Mooers was unable for a short time to determine the cause of the unusual speed. It was a clear evening and the streets were nearly empty, so, instead of stopping the machine altogether, he permitted it to run while he remedied the difficulty. It was about this time that Mr. Reese came along, also exceeding the limit, Mr. Mooers claims. The superintendent attempted to explain the trouble, but he claims the club man would not listen. Both became angry, and some words passed, with the result that Mr. Reese hid himself to the police station and swore out a warrant, which, however, was not served until Mr. Mooers returned

from an eastern trip some days later. Mr. Mooers will explain the accident in court, if given an opportunity.

FOR BRIGHTON BEACH MEET

Accommodations looking toward the most satisfactory care of cars are being made by the Long Island Automobile Club for its race meet to be held on August 23. These contemplate either checking or taking positions for observance of the start and finish of the events. A complete machine shop in charge of experts will be established for use on the day of the races for the convenience of competitors and spectators who may go to the track by automobile. The Brighton Beach track, which the club has secured, with the privilege of the grand stand, clubhouse and paddock, is asserted to be the fastest for the purpose in America, being 80 ft. wide and banked to an unusual degree. For days before the meet a 20-ton steam roller will be run over it.

The 60-h.p. Mors, in which Fournier created the world's record of a mile in 51 4-5 seconds, is to be entered in the races by A. J. Levy, who recently bought the half interest in the car formerly owned by E. E. Britton. Mr. Britton also expects to enter two or three machines. The new Ford racing machines, which are being built in Detroit by Henry Ford and Tom Cooper, and whose completion the public has been awaiting expectantly for some time, are also to be entered, according to assurances received by the club from Mr. Ford. The two machines that are nearly completed are of 80 h.p. each. S. T. Davis, Jr. has entered in the steam class the 10 h.p. racing Locomobile, with which he made the record of a mile in 1:12 in the Staten Island speed trials on May 21.

Entry blanks are being distributed and can be obtained from A. R. Pardington, P. O. Box 242, Brooklyn, N. Y. Entries close August 16.

A BIG CALIFORNIA RUN

SAN FRANCISCO, Cal., July 7. (Special Correspondence.)—The motorists of San Francisco, Oakland and San Jose held a union run on the last Sunday in June on the east side of San Francisco Bay. Nearly 100 vehicles took part and all who participated unite in declaring it the most successful and enjoyable event of its kind ever held in California. In addition to the San Francisco members of the Automobile Club of California, the Oakland membership and many unattached owners fell in line with their machines on the way

to Dallegos Hacienda, 28 miles southward. A few miles from the rendezvous, at a point previously agreed upon, the members of the new Automobile Club of San Jose, who had come 22 miles from their city in 1 hour 14 minutes, was in waiting, as was also Sr. Juan Dallegos, with a band of music which escorted the cavalcade to the hacienda, where toothsome hospitality was extended to nearly 100 automobilists and their guests.

The San Francisco and Oakland contingents were under the captaincy of George F. Whitney, assisted by E. P. Brinegar and E. Courtney Ford. The San Jose club was officered by Captain Frank Coypendall and Lieut. George Oleson, this being its first club run.

After luncheon, the party drove about through the large and beautiful grounds of the hacienda and enjoyed the charm so much that instead of taking the 4 o'clock boat at Oakland for San Francisco, the program was changed so that they took the 8 o'clock boat.

CANNOT ASSIST IN 1,000-MILE TEST

The Automobile Club of America has, through Secretary Butler, advised the Chicago Automobile Club that, owing to the absorption of its attention by the Boston to New York endurance run which it is promoting for this fall, it will be unable to co-operate in the organization of the proposed 1,000-mile endurance test between New York and Chicago. The committee of the A. C. A. on the Boston-New York test will meet in a few days to decide upon the date of this event and arrange the preliminary details. There is a strong sentiment in favor of October as the best and most convenient month for the event.

STEEL ROADS TO BE TRIED

A thorough demonstration of the practicability of the steel track wagon road, as advocated for several years by General Roy Stone, is soon to be made in New York city as the result of the interest taken and efforts in the matter made by the Automobile Club of America, the generosity of the United States Steel Corporation, and the hearty co-operation of the city authorities. The chief difficulty that stood in the way of the steel roads committee of the club was to get the special shape of steel rolled, but when Chairman Seligman, of the committee, conferred with President Schwab, of the United States Steel Corporation, he found him in full sympathy with the movement, and ready not only to furnish the special forms required and deliver them promptly, but to contribute the steel for a sample mile of road as a free gift. General Stone has already consulted with the steel corporation's experts on the details of construction and the material will be delivered in six weeks.

President Cantor, of Manhattan Bor-

ough, has shown a warm interest in the matter, and by his direction Chief Engineer Olney is to recommend a suitable location for sections of the road. It is intended to place one in the heavy trucking district downtown, another in a street of general traffic and a third on a suburban earth road. The track plates will be 12 ins. wide and will be laid on special foundations of broken stone. An English engineer, who recently inspected the steel road at Valencia, in Spain, that has been in use for ten years, reports in the highest praise of it in every particular.

RHODE ISLAND A. C. RUN

PROVIDENCE, R. I., July 12. (Special Correspondence.)—The most largely attended and most successful club run of the Rhode Island Automobile Club was held this afternoon, when about thirty vehicles, occupied by more than fifty members and their guests, left the club quarters in the Crown Hotel and enjoyed a trip to River Point. The destination was reached fifty minutes after the start, and the only mishaps on the trip were the breaking of an axle on Dr. Battershall's machine and the puncturing of a tire on Mr. Colwell's Knickerbocker. The party was entertained at River Point by C. Prescott Knight, one of the club members, who gave an elaborate lunch to his guests.

A hill climbing contest followed luncheon. A long grade extending from the main road to the Knight house was selected for the tests, and the conditions were that all carriages should make the ascent after the 50-mile run without changing batteries or gears. Excepting the electrics, all carriages were required to carry two persons, and carriages having tonneau bodies were not allowed to dismantle. The test lasted for nearly an hour, all the carriages participating.

At the conclusion it was announced that J. B. Mills, in one of the Winton touring cars, had won first prize in the gasoline class, his time being 1:57, and the prize a pair of cut-glass decanters.

Charles O. Read won the cup offered for the steam carriages, his time being 2:24 3-5, and the prize a silver cup.

In the electric class, Dr. Peckham, in his Waverley, won first prize, a silk umbrella, his time being 2:36.

The return trip to the hotel was made in less time than the down run. Dinner was served at the hotel, and the prizes offered by Mr. Knight were then awarded by the president of the club, Dr. Julian A. Chace. There was after-dinner speaking, during which the hospitality of Mr. Knight received deserved praise.

The committee in charge of the run was composed of R. Lincoln Lipptitt, F. C. Fletcher and F. E. Perkins.

MILWAUKEE SPEED DEMONSTRATION

MILWAUKEE, Wis., July 14. (Special Correspondence.)—The Pringle automo-

bile ordinance was considered by the judiciary committee of the city council last week, and, owing to the opposition of the members of the Milwaukee Automobile Club to its provisions, an agreement was reached between the aldermen and several prominent motor vehicle owners, including Dr. Elmergreen, president of the club; W. H. Starkweather, R. C. Forer and E. W. Olds, to hold a practical speed and control demonstration. The city fathers will be taken out in power machines and driven at varying rates from four to fifteen miles, and also shown how perfectly the vehicles can be controlled. The proposed ordinance provides for a maximum speed of four miles in the central section of the city and eight miles in residential and outlying sections. The motorists want the limits raised to six and fifteen miles respectively.

IS NOT OPPOSING THE A. A. A.

Frederick H. Elliott, secretary of the Syracuse Automobile Club, wants to correct the impression that by agitating the formation of a New York State automobile association he is in any way opposing the American Automobile Association, as has been stated in some of the New York dailies. He desires to solicit the aid of the various clubs in the State to help in the legislation which it is desired to pass or to fight. He thinks that all the owners of machines in the State should be united, as whatever good can be accomplished in New York State will be a help to those in other States. Mr. Elliott has been to Buffalo, where he enlisted the support of several prominent members of the Buffalo club.

TEN-MILE LIMIT IN TOLEDO

TOLEDO, O., July 12. (Special Correspondence.)—At the last meeting of the Council an ordinance was passed limiting to 10 miles the speed of automobiles and motor cycles on the streets within the city limits. The ordinance went to the Mayor for his signature, but he refused to sign it. This, however, will not prevent it becoming a law, as after ten days it becomes effective, signature or no signature.

A LAUNCH AND CAR SERVICE

NEW LONDON, Conn., July 15. (Special Correspondence.)—Launch and motor vehicle as an adjunct to the conduct of a successful summer hotel is a novelty to be inaugurated at Eastern Point, across the harbor from New London, where the Fort Griswold House and cottages are managed by B. H. Yard. Eastern Point may be reached overland by using the ferryboat to Groton, thence by an excellent macadam road, a distance of three miles. The hotel is at the mouth of the harbor directly opposite the Pequot House. The Eastern Point Co. has been incorporated for the purpose of land and water transportation, with Franklin Jerome as president and B. H. Yard treasurer and manager.

The company has had built at Mystic a gasoline launch capable of carrying twenty passengers. The boat has been named Louise and will cover a regular schedule between Eastern Point, the Pequot and New London, running independent of the harbor steamer Osprey, which connects with all trains at New London.

Manager Yard says: "I'm not much of a 'steamboater,' but I guess I can pick it up all right with a gasoline launch to start with, and there will be no opportunity, I hope, to find fault with the service. The guests at the hotel and the cottagers at the Point have felt the need of some connection with the Pequot House and the railroad station, and now they are to have the need supplied."

The company proposes to purchase motor vehicles for the overland route, the vehicles being stationed at the Fort Griswold House, several to be subject to the call of residents and others covering a regular run. The company's scope covers the business of common carrier of passengers, baggage, United States mail, general freight and express matter.

CLUB NOTES

The Springfield Automobile Club, of Springfield, Mass., which organized in September, 1901, has just voted to accept the proposition of J. C. Cowan to make his automobile station the club headquarters. The offer includes the privilege of storing the vehicles of members at the station without charge from 7 A. M. to midnight, and after midnight for a charge of 25 cents for twenty-four hours or part thereof. Mr. Cowan will put in an elevator at once, and, should conditions require it, will add another story to his building, in which event the club will be given a space in front on the second floor for club rooms. The club dues have been reduced from \$25 to \$12 annually, payable quarterly.

A road book to embrace short routes for runs for one-day trips out of New York city is being prepared by Secretary Butler for the use of members of the Automobile Club of America. It will include the good roads to nearby towns up the Hudson and in the seacoast district from Sandy Hook to Atlantic City and inland to Lakewood and Red Bank, N. J.

The number of motor vehicles has increased so rapidly of late in and around Waterbury, Conn., that there is now an agitation on foot to form an automobile club and participate in periodical runs to Quassapaug Lake and other resorts. There are now fifteen power vehicles in and around Waterbury.

The board of directors of the Automobile Club of Cincinnati, at its last meeting, elected Dr. L. S. Colter to the office of secretary to succeed R. H. Cox.

TRADE BREVITIES

John D. Dickson & Co. have established automobile headquarters in Newport and also at Narragansett Pier, where every make of machine can be repaired, charged and cared for. Storage facilities are a feature.

Terwilliger Bros. of Amsterdam, N. Y., are planning to form a stock company for the manufacture of automobiles. They have just completed a steam carriage, after months of experimenting and work.

Orders have been placed for three American Daimler vehicles, capable of carrying fourteen passengers each, to be used on the Rhinebeck-Rhinecliff stage route in New York State.

The Pennsylvania Electric Vehicle Co.'s building at 250 to 256 North Broad street Philadelphia, which was recently damaged by fire, is to be rebuilt at once.

The Oldsmobile Co., of New York City, has opened a summer branch salesroom and storage station at Long Branch. J. H. Manning is in charge.

The Superior Motor Carriage Co., a new concern, in Cleveland, O., announced on June 22 that it is ready to supply carriages of its own make.

The Conrad Motor Carriage Co., of Buffalo, has placed an agency for its Conrad vehicles with W. F. Kimball in Haverhill, Mass.

The International Power Vehicle Co. is looking for a location for its factory in upper New York State.

The Scott Motor Works, of St. Louis, has moved from Elston Ave. to 2112 to 2114 Washington Ave.

A. L. Dyke, of St. Louis has moved from Vandeventer Ave. to 14th and Pine Sts.

Frank R. Parker has taken the agency for Oldsmobiles in Manchester, N. H.

NOTES OF THE TRADE

Forty different sizes and styles of automobile horns are now carried in stock by Charles E. Miller, manufacturer, jobber and exporter, at 99 Reade St., New York. This is believed to be the largest assortment of horns in the United States. Mr. Miller is having a line of horns manufactured for him and is in position to supply large buyers and vehicle makers.

A list of the products of the American Steel and Wire Co. is contained in a booklet which the company is distributing under the title, "Electrical Tables." This list may be of value for reference to constructors of vehicles and parts, who have use for some of the many forms of rods, wires and springs made by the company.

The Avery Stamping Co., a leading stamping concern of Cleveland, Ohio, is making the announcement that it is prepared to furnish tanks for automobiles for holding gases or fluids; heads and bottoms for cylinders, boilers, tanks, etc.

DIAMOND CHAINS

LARGE AND HARD
NICKEL STEEL RIVETSGREAT TENSILE STRENGTH
AND ACCURACYAVOID TROUBLE BY EQUIPPING MACHINES
WITH LARGE CHAINS

AUTOMOBILE AND CYCLE PARTS COMPANY

DIAMOND CHAIN FACTORY

Indianapolis - Indiana

The Kalamazoo Cycle Co., of Kalamazoo, Mich., is building a light quadricycle, with tandem seats, driven by an air-cooled gasoline motor. The machine is pedalless and both seats are of the chair or cushion type. The weight is less than 300 lbs. and the price will probably be less than \$400. The machine carries two or three persons and will go through a 3-ft. doorway. The makers think it is the lightest practical automobile made. The company will soon be turning out for the market machines similar to this first machine.

Walter E. Lewis and Co., of South Norwalk, Conn., are busy filling orders for their storage batteries, which are used in automobiles and launches.

A second edition of the United States Accumulator Co.'s catalogue is being distributed. This describes and gives sizes and prices of storage batteries for light and power plants as built in the company's factory, at 212 East Illinois St.

Chicago. Batteries for automobile and traction purposes are built to order upon specifications furnished by the customer.

Mr. George C. Cannon, the Harvard student, who has built the fast steam car recently mentioned, speaks as follows of the Forgy burner:—"I find that this burner gives more than sufficient heat with its three mixing tubes and very serviceable pilot. Using gasoline at a pressure of 90 lbs., it gives the hottest fire I have ever seen." The burner is made by Peter Forgy, Somerville, Mass.

Tiffany & Co., New York jewelers, have ordered three electric delivery wagons from the Vehicle Equipment Co., which are to excel in appearance anything thus far seen on the streets of New York.

The Locomobile Co. of America has declared a semi-annual dividend of 3½ per cent. on its preferred stock.

Index to Advertisers

Adams Co., The.....	27
American Ball Bearing Co.....	33
American Coil Co.....	30
American Darracq Automobile Co.....	36
American Roller Bearing Co.....	32
American Tubular Wheel Co.....	33
Audel & Co., Theo.....	26
Automobile Headquarters.....	26
Automobile & Marine Power Co.....	36
Automobile & Cycle Parts Co.....	25
Automobile Co. of America.....	36
Axiom Carburetor Mfg. Co.....	28
Back Bay Hydro-Carbon Repair Co.....	26
Baker Motor Vehicle Co.....	37
Balkwill Pattern Works.....	28
Besley & Co., Chas H.....	30
Bowser & Co. Inc., S. F.....	30
Bowen Mfg. Co.....	35
Bray Mfg. Co.....	28
Buffalo Automobile & Auto-Bi Co.....	26
Carlisle & Finch Co.....	31
Cavanaugh & Darley.....	35
Century Motor Vehicle Co.....	39
Chicago Motor Vehicle Co.....	37
Chisholm & Moore Mfg. Co.....	27
Cincinnati Panel Co.....	28
Clark Tire Co.....	34
Cleveland Faucet Co.....	34
Cleveland Wire Spring Co.....	28
Coburn, A. J. & Co.....	26
Columbia Lubricants Co.....	30
Columbus Automobile Exchange.....	26
Conrad Motor Carriage Co.....	37

Dayton Elec. Mfg. Co.....	28
Detroit Carriage Mfg. Co.....	28
Diamond Rubber Co.....	40
Diets Co., R. E.....	27
Dixon Crucible Co., Jos.....	30
Dunbar Brothers.....	28
Du Bois Automobile Agency.....	26
Eastman Metallic Body Co.....	27
Electric Vehicle Co.....	39
Elmore Mfg. Co.....	36
Elwell-Parker Electric Co.....	26
Erie Foundry Co.....	34
Essex Brass Co., G. B.....	30
Forgy, Peter.....	29
Fournier-Searchmont Automobile Co.....	27
Friedman Automobile Co.....	38
Garden City Spring Works.....	28
G & J Tire Co.....	34
Gleason-Peters Air Pump Co.....	34
Gould, G. T.....	36
Gould Storage Battery Co.....	31
Grant-Ferris Co.....	38
Grout Bros. Co.....	38
Helios-Upton Co.....	31
Henricks Novelty Co.....	31
Hottelling Bros. Co.....	28
Hoffman Motor Co.....	35
International Air Pump Co.....	34
International Motor Car Co.....	39
Jarvis Machine & Engine Works.....	26
Janney, Steinmetz & Co.....	29
Jones & Co., Phineas.....	32
Kelly Handle Bar Co.....	29
Kinsey Co., E. A.....	35
Konigslow, Otto.....	27
Knowles, C. S.....	26
Lathrop, J. W.....	35

Lincoln Electric Co.	37
Lobe Pump Co.	34
Locke Regulator Co.	34
McRae, H. C.	29
Mason Regulator Co.	35
Miller, Chas E.	32
Miscellaneous Advertisements.	36
Mosier, Arthur R.	31
Motor Cycle Mfg. Co.	32
Motor Vehicle Power Co.	36
Mueller, Herman, C.	31
Munger Automobile Tire Co.	34
Niagara Motor Vehicle Co.	32
Noye Mfg. Co.	35
Nungesser Electric Battery Co.	31
Nuestadt-Perry Co.	27
Ofeldt & Sons, F. W.	26
Ohio Automobile Co.	38
Olds Motor Works.	38
Overman Automobile Co.	34
Pittsburg Reduction Co.	27
Randolph-Clowes Co.	33
Reason Automatic Air Pump Co.	34
Reliance Gauge Column Co.	26
Rutenber Mfg. Co.	35
Salmadrine Boiler Co.	29
Shelby Steel Tube Co.	27
Special Notices.	26
Spiltdorf, C. F.	31
Standard Oil Co.	30
Standard Welding Co.	32
Stearns & Co., F. B.	27
Towle, Herbert L.	30
Tucker, W. W. & C. F.	30
Turner Brass Works.	29
Tuthill Spring Co.	28
Upton Machine Co.	32
Weston-Mott Co.	33
White Sewing Machine Co.	36
Wilson Carriage Co., C. R.	28
Winton Motor Carriage Co.	35
Woodward Burner & Specialty Works.	29
Wolverine Motor Works.	35

Special Notices

Advertisements of second hand vehicles or parts for sale, or for Positions Wanted, inserted under this heading at 10c per line. Remittance must accompany copy.

FOR SALE—One DeDion-Bouton Motorette, 5 h.-p., \$450. One Quadricycle, with detachable front seat which can be changed to tricycle, \$275. One Oldsmobile in first-class condition, \$575. One Locomobile Surrey, Style O.5, \$700. One Loco Surrey, nearly new, guaranteed in perfect condition, \$950. One Mobile Dos-a-Dos, 3 in. tires and mud guards, \$650. One Mobile Dos-a-Dos, 2½ in. tires and mud guards, \$550. One Mobile Runabout, in fine condition, \$450. One Locomobile, Style O.2, nearly new, \$500. One Waverley Electric, \$450. One Locomobile, in good running order, \$275. One Locomobile, with top, 1900 model, \$350. One Waverley Electric, all in good condition except batteries, \$300. F. W. Stockbridge, Patterson, N. J. 19

FOR SALE—Steam carriage—6 h.-p. engine, 20-inch boiler, 600 tubes, steam, water and air pump, double seat; all new and perfect; price \$800.00. Write for photo and particulars. Address Wm. Hight, Newport, Vt. 19?

POSITION as shop-superintendent in gasoline or steam manufactory by married man with good references. H. E. Barnhart, Warren, Pa. 8-19

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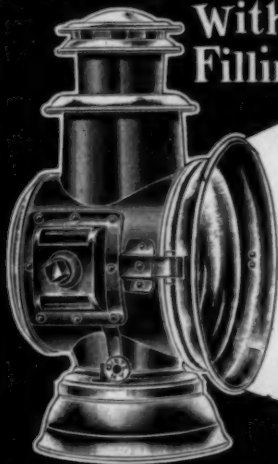
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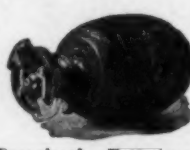
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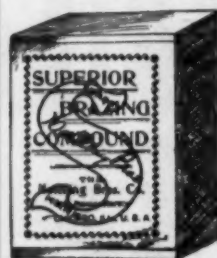
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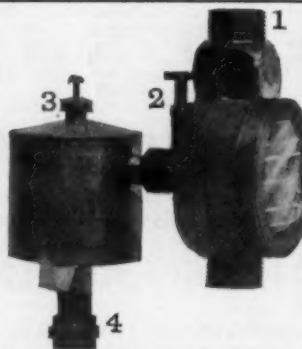


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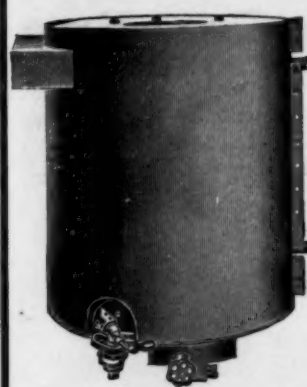
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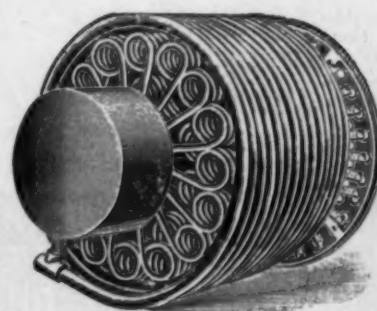
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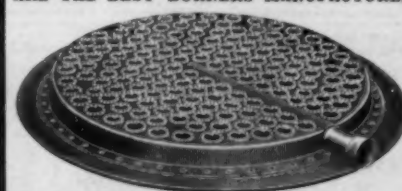
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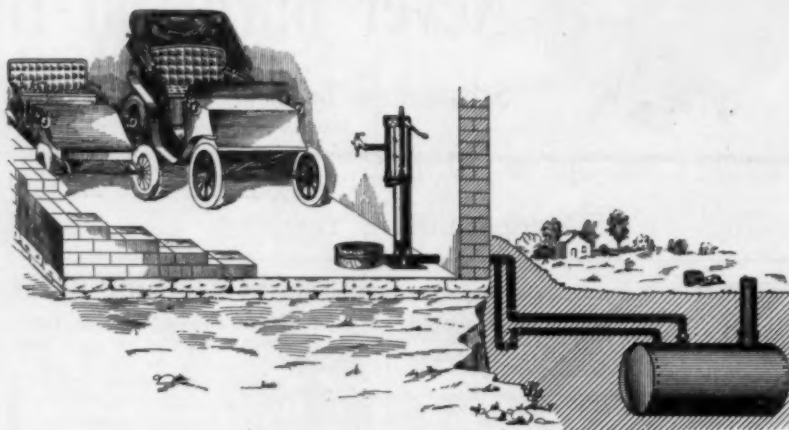
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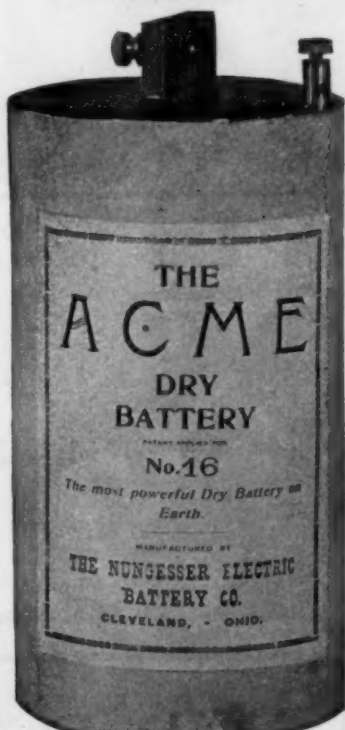
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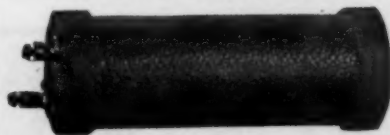


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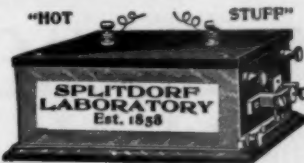
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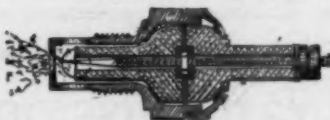
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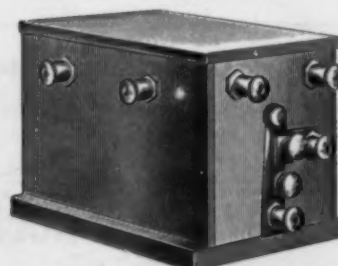
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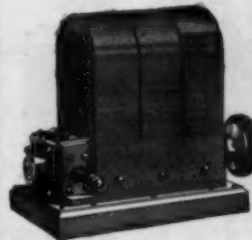
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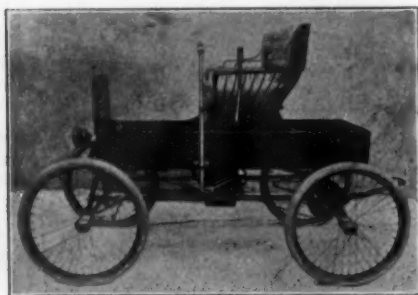


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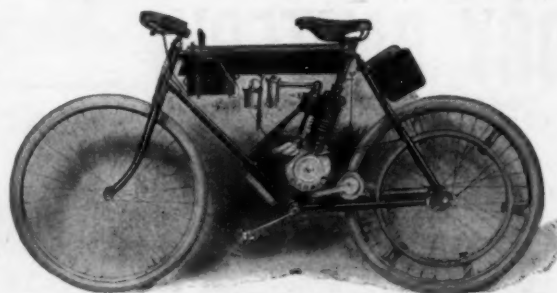
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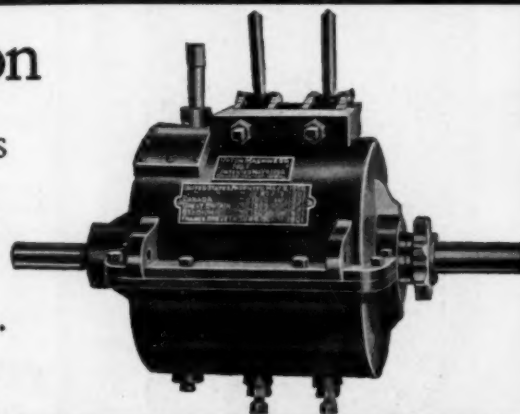
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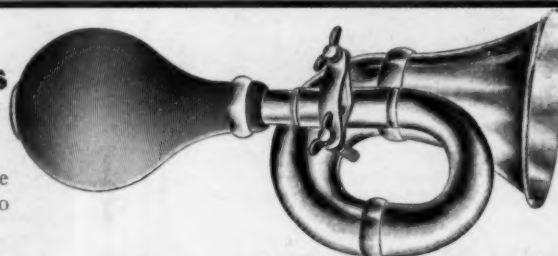
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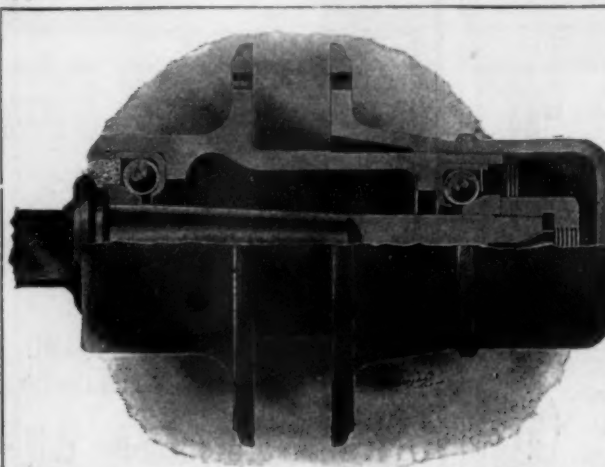
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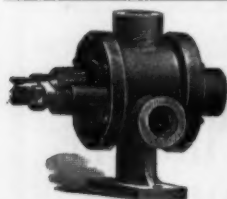
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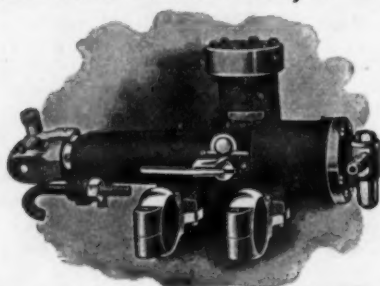
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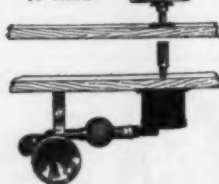
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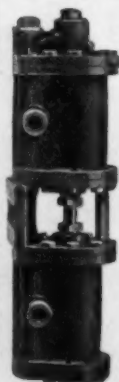
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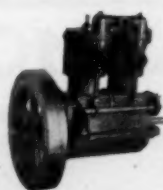
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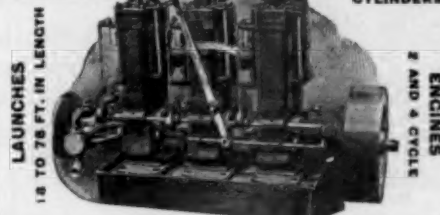
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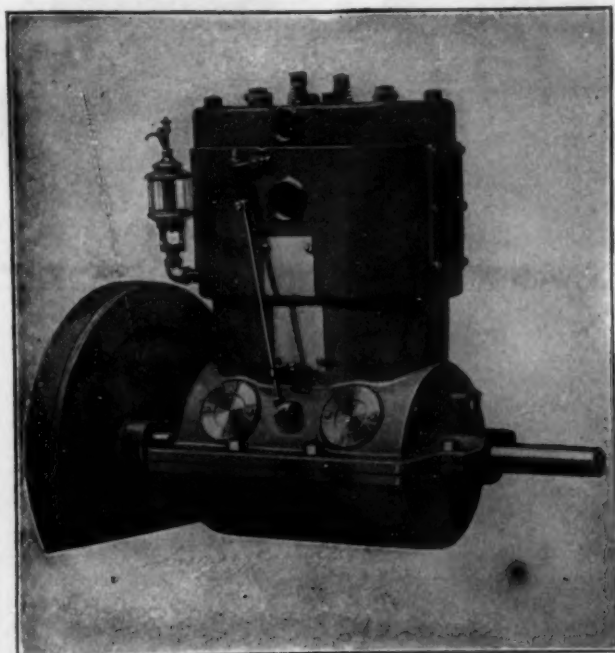
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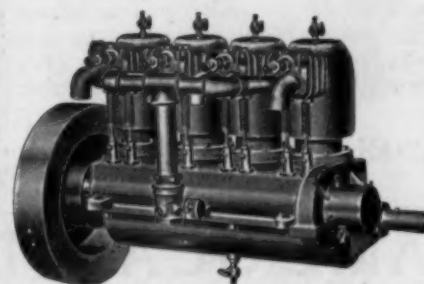
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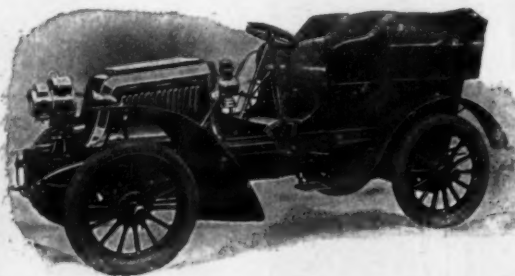
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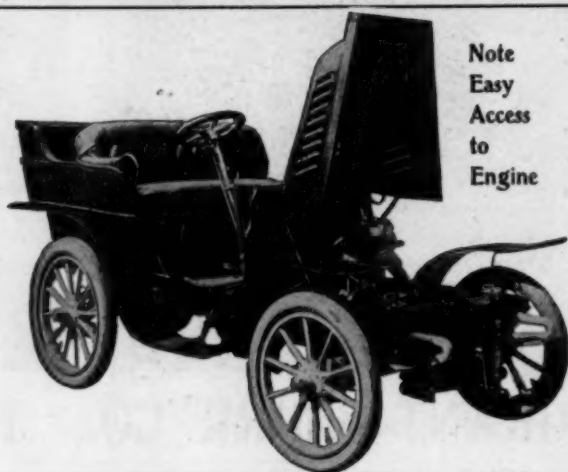
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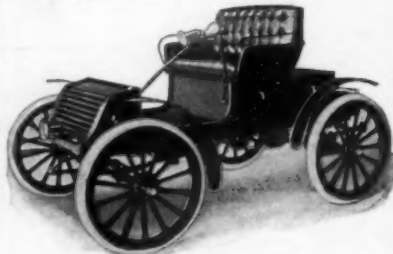
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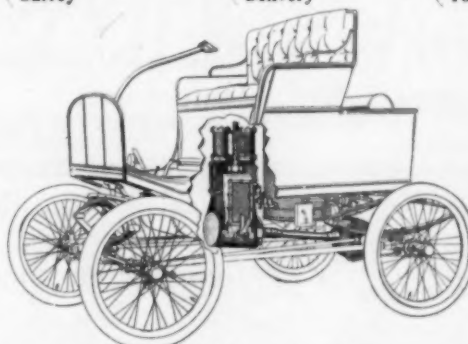
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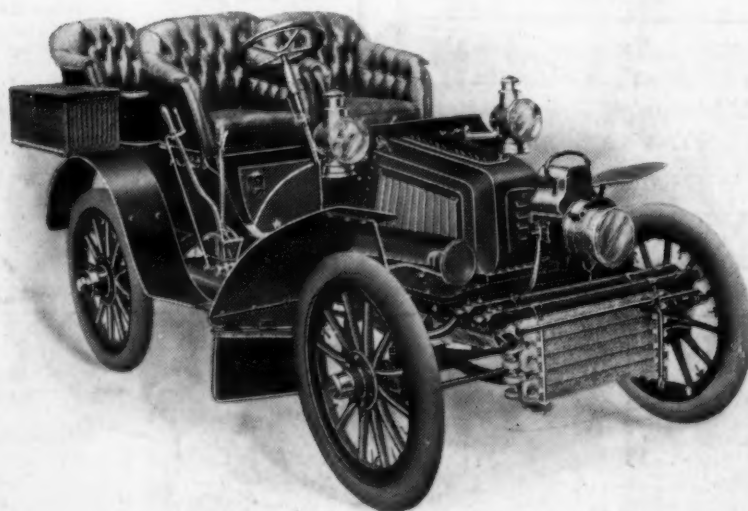
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